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# SAN FRANCISCO CITY HALL COMPETITION

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BY

JOHN BAKEWELL, jr.

San Francisco
Architect and Engineer of California
July 1912

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# THE SAN FRANCISCO CITY HALL COMPETITION

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# THE ARCHITECT & ENGINEER

## OF CALIFORNIA

JULY
1912

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Concrete Appliances Co., Los Angeles; Parrott & Co., Coast Representatives, San Francisco, Portland, Seattle.

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Clinton Fireproofing System, L. A. Norris, Monadnock Bldg., S. F.
International Fabric & Cable, represented by Western Builders' Supply Co., 680 Mission St., S. F.
Plain and Twisted Bars, sold by Baker & Hamilton, San Francisco, Los Angeles and Sacramento.
Triangle Mesh Fabric, Sales Agents, The Lilley & Thurston Co....Rialto Bldg., S. F.
Twisted Bars, sold by Woods & Huddart, 444 Market St., S. F.

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**457 MARKET STREET, PHONE SUTTER 1687.**


### ARCHITECTS' SPECIFICATION INDEX—*Continued*

CONCRETE SURFACING
"Alkacene" Liquid Concrete, Boyd & Moore, 356 Market St., S. F.
The American Bitumastic Enamels Company, Hill, Hubbell & Co., Pacific Coast Agents, Fife Bldg., S. F.
Buswell's Steel and Concrete Paints, Oakland, Cal.
"Concreta," sold by W. P. Fuller & Co., S. F.
Concreto, Worden-Meeker Varnish Co., S. F. and Oakland.
Glidden Liquid Cement, manufactured by Glidden Varnish Company, Whittier, Coburn Co., San Francisco and Los Angeles. Pacific Coast Distributors.
WESCO—West Coast Kalsomine Co., 110 Hansford Bldg., S. F.

CONSTRUCTION MATERIAL
Electric Appliance Co., 807 Mission St., S. F.

CONSTRUCTION MANAGERS
Geo. H. Stoffels Co., ....Pacific Bldg., S. F.

CONTRACTORS, GENERAL
Elam, Thos. & Son, Builders' Exchange, S. F.
Esterly Construction Co.....Berkeley, Cal.
F. O. Engstrum Co., East Fifth and Seaton Sts., Los Angeles.
Foster, Vogt Co.,...722 Hearst Bldg., S. F.
Geo. H. Stoffels & Co., 830 Pacific Bldg., S. F.
Geo. W. Boxton.....Hearst Bldg., S. F.
Harvey A. Klyce.. ..Monadnock Bldg., S. F.
McLaren & Peterson, 706-707 Williams Bldg., S. F.
C. P. Moore Building Co., Monadnock Bldg., S. F.
Locke Construction Company, Crocker Bldg., S. F.
William H. Henning..Examiner Bldg., S. F.
Ransome Concrete Co., 1218 Broad'y, Oakland
Rickon-Ehrhart Eng. & Const. Co., 1859 Geary St., S. F.
Robert Trost...26th and Howard Sts., S. F.
Peterson & Wilson.....1113 Post St., S. F.
Wm. Bateman.....1915 Bryant St., S. F.
Van Sant-Houghton Co., 503 Market St., S. F.
Williams Bros. & Henderson, 351 Monadnock Bldg., S. F.
Willis A. Clark & Co., Monadnock Bldg., S. F.

CORNER BEAD
Hunt Metal Corner Co., 201 Devonshire St., Boston, Mass.
"Prescott," sold by Boyd & Moore, 356 Market St., S. F.
Union Metal Corner Company, 144 Pearl St., Boston, represented on the Pacific Coast by Waterhouse & Price.

CRUSHED ROCK
Natomas Consolidated of California, Peoples Savings Bank Bldg., Sacramento, Cal.
Niles Rock, sold by California Building Material Company.....Pacific Bldg., S. F.
J. P. Holland.....Army St. Wharf, S. F. Phone Mission 5466.
Niles Sand, Gravel & Rock Co., Mutual Savings Bank Bldg., S. F.

CORK TILING
Nonpareil Cork Tiling, David E. Kennedy, Inc., N. Y. Pacific Coast office, Phelan Building, S. F., G. H. Freear, Mgr.

DAMP-PROOFING COMPOUND
The American Bitumastic Enamels Company, Hill, Hubbell & Co., Pacific Coast Agents, Fife Bldg., S. F.
Biturine Co. of America, 24 California St., S. F.
Glidden's Liquid Rubber, sold on Pacific Coast by Whittier, Coburn Company, San Francisco and Los Angeles.
"Hydrex" Felt & Compound, manufactured by Hydrex Felt & Engineering Co., New York, sold by Rolph, Mills & Co., Metropolis Bank Bldg., S. F.
"Pabco" Damp Proofing Compound, sold by Paraffine Paint Co.....34 First St., S. F.
Parrott & Co., agents for Genasco Positive Seal Damp Proof Paint.
"Protectorine," Compound, sold by Boyd & Moore.....356 Market St., S. F.
H. D. Samuel Co....Monadnock Bldg., S. F.
WESCO—West Coast Kalsomine Co., 110 Hansford Bldg., S. F.

DOORS—FREIGHT ELEVATOR
"Cross" Counterbalance Automatic, Boyd & Moore, Agents.....356 Market St., S. F.

DOOR HANGERS
Pitcher Hanger, sold by Pacific Tank Company.....231 Berry St., S. F.
Reliance Hanger, sold by Sartorius Co., S. F.; D. F. Fryer & Co., Louis R. Bedell, Los Angeles, and Portland Wire & Iron Works.

DOOR OPENER
G. Rischmuller, Builders' Ex., and 3442 19th St., S. F..

DOORS—DISAPPEARING
Pacific Tank & Pipe Co.,231 Berry St., S. F.

DOORS—SCREEN
Higgin Mfg. Co., represented by Mailler Searles.....817 Monadnock Bldg., S. F.


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17TH & MISSOURI STS., SAN FRANCISCO

## ARCHITECTS' SPECIFICATION INDEX—*Continued*

DOORS AND SHUTTERS
Kinnear Steel Rolling Doors and Shutters, Lilley & Thurston Co., Rialto Bldg., S. F.

DOORS—WAREHOUSE
"Cross" Horizontal Folding Doors, Boyd & Moore, Agents.....356 Market St., S. F.
Wells & Spencer Machine Company, 173 Beale St., S. F.

DUMB WAITERS
Energy Dumb Waiters, Boyd & Moore, Agents.....356 Market St., S. F.

ELECTRICAL CONTRACTORS
Butte Engineering Co..683 Howard St., S. F.
Central Electric Co..185 Stevenson St., S. F.
Davis & Doman Electric Co., 1220 Webster St., S. F.
Electric Appliance Co., 807 Mission St., S. F.
Jno. G. Sutton Co.....243 Minna St., S. F.
Pacific Fire Extinguisher Company, 507 Montgomery St., S. F.

ELEVATORS
Otis Elevator Company, Stockton and North Point, S. F.
Van Emon Elevator Co..54 Natoma St., S. F.
Wells & Spencer Machine Co., 173 Beale St., S. F.

ELEVATOR CARS
Cleveland Art Metal Co., Boyd & Moore, Agents.....356 Market St., S. F.

ELEVATOR DOORS
"Cross" Elevator Doors, Boyd & Moore, Inc., Agents.....356 Market St., S. F.
Dahlstrom Metallic Door Co., Rialto Bldg., S. F.

ELEVATORS, SIGNALS, FLASHLIGHTS AND DIAL INDICATORS
Elevator Supply & Repair Co., 593 Market St., S. F.

ENGINEERS
F. J. Amweg.....700 Marston Bldg., S. F.
W. W. Breite.....Clunie Bldg., S. F.
J. C. Hurley.....121 Geary Street, S. F.
Hunter & Hudson, Monadnock Bldg., S. F.
Rickon & Ehrhart, 1859 Geary St., S. F.
Van Sant-Houghton Co., 503 Market St., S. F.

EXPRESS CALL SYSTEM
Elevator Supply & Repair Co., 593 Market St., S. F.

FIRE ESCAPES
Pacific Structural Iron Works, Structural Iron and Steel, Fire Escapes, etc. Phone Market 1374; Home, J 3435..370-84 Tenth St., S. F.

FIRE EXTINGUISHERS
Marshall & Schimpf.....Clunie Bldg., S. F.
Pacific Fire Extinguisher Co., 507 Montgomery St., S. F.

FIREPLACE DAMPER
Head, Throat and Damper for open fireplaces, Colonial Fireplace Co., Chicago.
(See advertisement for Coast agencies.)

FIREPROOFING
Gladding, McBean & Company, Crocker Bldg., S. F.
Los Angeles Pressed Brick Co., Frost Bldg., L. A.
Roebling Construction Co., Crocker Bldg., S. F.

FIRE PROTECTION—SPRINKLER SYSTEM
Jno. G. Sutton Co.....243 Minna St., S. F.
Pacific Fire Extinguisher Company, 507 Montgomery St., San Francisco; Branch Offices, Portland, Seattle and Spokane.
Marshall & Schimpf.....Clunie Bldg., S. F.

FIXTURES—BANK, OFFICE, STORE, ETC.
Burlingame Cabinet Works, 509-511 Sixth Street, San Francisco
A. J. Forbes & Son..1530 Filbert St., S. F.
Fink & Schindler.....218 13th St., S. F.
T. H. Meek Company..1157 Mission St., S. F.
C. F. Weber & Co.. 365 Market St., San Francisco and 210 N. Main St., Los Angeles, Cal.

FLOOR TILING
Watson Mantel & Tile Co., 457 Market St., S. F.

FLOOR VARNISH
Bass-Hueter and S. F. Pioneer Varnish Works, 816 Mission St., S. F.
R. N. Nason & Co...151 Potrero Ave., S. F.
Standard Varnish Works, Chicago, New York and S. F.
Worden-Meeker Varnish Works, S. F. and Oakland

FLOORS—CORK
Nonpariel Cork Tiling, David E. Kennedy, Inc., N. Y. Distributor for the Pacific Coast, G. H. Freear, Phelan Building, S. F.

FLOORING—MAGNESITE
Mallott & Peterson, 682 Monadnock Bldg., S. F.

GARAGE EQUIPMENT
Bowser Gasoline Tanks and Outfit, Bowser & Co.....612 Howard St., S. F.

GARBAGE BURNERS
Water Heating Garbage Burners, sold by Cal. Hydraulic Eng. & Supply Co., 70 Fremont St., S. F.

GARBAGE CHUTE
Bill & Jacobsen.....524 Pine St., S. F.

GLASS AND GLAZING
California Plate and Window Glass Company, 864 Mission St., San Francisco.
W. P. Fuller & Co., San Francisco, Los Angeles and Portland.

GRAPHITE
Detroit Graphite Co..301 Hearst St., S. F.

GRAVEL, SAND AND CRUSHED ROCK
Bay Development Co....153 Berry St., S. F.
California Building Material Co., Pacific Bldg., S. F.
Del Monte White Sand, sold by Pacific Improvement Co.....Crocker Bldg., S. F.
Grant Gravel Co.....87 Third St., S. F.
J. P. Holland.....Army St. Wharf, S. F.
Natomas Consolidated,
Peoples' Savings Bank Bldg., Sacramento

HARD WALL PLASTER
Empire Hard Wall Plaster, sold by Pacific-Portland Cement Co., Pacific Bldg., S. F.
Reno Hard Wall Plaster, sold by Western Building Material Co., 430 California St., S. F.

HARDWARE
Russwin Hardware. Joost Bros., S. F.

HARDWOOD FLOORING
Boyd & Moore.....356 Market St., S. F.
Dieckmann Hardwood Co., Beech St., cor. Taylor, S. F.
E. A. Howard & Co., 20 Howard St., S. F.
Strable Mfg. Co.....Oakland, Cal.
Parrott & Co.....320 California St., S. F.
White Bros., Cor. Fifth and Brannan Sts., S. F.
Hardwood Interior Co., 554 Bryant St., S. F.

HARDWOOD LUMBER
Dieckmann Hardwood Co., Beach St., cor. Taylor, S. F.
Parrott & Co.....320 California St., S. F.
Strable Mfg. Co., First St., betw. Washington & Clay, Oakland.
White Bros., Cor. Fifth and Brannan Sts., S. F.

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TELEPHONES: KEARNY 664 HOME J 1124


### ARCHITECTS' SPECIFICATION INDEX—*Continued*

HARDWOOD VENEER PANELS AND DOORS
E. A. Howard & Co., 41 Howard St., S. F.

HEATERS—AUTOMATIC
Hoffman Heater, sold by Holbrook, Merrill & Stetson, San Francisco and Los Angeles.
Humphrey Co.,
565 N. Rose St., Kalamazoo, Mich.
Pittsburg Water Heater, sold by Thos. Thieben & Co., .....667 Mission St., S. F.

HEATING ENGINEERS
General Engineering Co.,
231-3-5 Natoma St., S. F.

HEATING EQUIPMENT—VACUUM, ETC.
C. A. Dunham Co., Marshalltown, Iowa, Western Division Office,
Monadnock Bldg., S. F.
Guernsey & Wheeler, ....Rialto Bldg., S. F.
Marshall & Schimpf.....Clunie Bldg., S. F.

HEATING AND VENTILATING
Atlas Heating & Ventilating Co.,
Fourth and Freelon Sts., San Francisco.
Fess System Co.....220 Natoma St., S. F.
Guernsey & Wheeler....Rialto Bldg., S. F.
Gilley-Schmid Co., Inc.,
Thirteenth and Mission Sts., S. F.
Hoffman & Meusser,
1129-1131 Howard St., San Francisco.
J. C. Hurley..... 12 Geary Street, S. F.
S. T. Johnson Co....1334 Mission St., S. F.
Mangrum & Otter, Inc., 507 Mission St., S. F.
H. W. Moffat, .....Pacific Bldg., S. F..
Royal Heating Co.,.280-82 Minna St., S. F.
Jno. G. Sutton Co....243 Minna St., S. F.
Pacific Blower & Heating Co.,
17th St., betw. Mission and Valencia, S. F.
Pacific Fire Extinguisher Company,
507 Montgomery St., S. F.
Petersen-James Co....710 Larkin St., S. F.

HINGES
Stanley's Ball-Bearing Hinges, Stanley Co.,
New Britain, Conn.

HOTELS
The Angelus, Loomis Bros.....Los Angeles

ICE MAKING MACHINES
"The Wizard," sold by the De Laval Dairy Supply Co., Drumm and Sacramento streets, San Francisco.

INGOT IRON
American Rolling Mill Co., Middleton, Ohio.
California Corrugated Culvert Co.,
5th and Parker Sts., West Berkeley.

INLAID FLOORS
Hardwood Interior Co., 554 Bryant St., S. F.

INSPECTIONS AND TESTS
R. E. Noble & Co., Humboldt Bank Bldg., S. F.
Robert W. Hunt & Co.,
418 Montgomery St., S. F.
Smith, Emery & Co., Inc.,
651 Howard St., S. F.

INSULATING MATERIALS
Armstrong Cork Co..... Pittsburg, Pa.

INSURANCE
David Duncan, ....340 Sansome St., S. F.

INTERIOR DECORATING
The Texer Company, 228 Grant Ave., S. F.

JOIST HANGERS
Western Builders' Supply Co.,
680 Mission St., S. F.

KITCHEN BOILERS
Victor Boiler Co.,
Fourth and Washington Sts., Oakland

KITCHEN EQUIPMENT
John G. Ils & Co....855 Mission St., S. F.

LANDSCAPE ENGINEERS
MacRorie & McLaren Co.,
Westbank Bldg., S. F.

LIME
J. P. Holland.....Army St. Wharf, S. F.
Holmes Lime Company,
Monadnock Bldg., S. F.

LIGHTING FIXTURES
Adams & Hollopeter....745 Mission St., S. F.
Bauer Fixture Co.....49-55 Jones St., S. F.

LIGHT, HEAT AND POWER
Pacific Gas & Elec. Co..445 Sutter St., S. F.

LOCKERS—METAL
Hart & Cooley Co., Boyd & Moore, Agents,
356 Market St., S. F.

LUMBER
Sumner Lumber So.....Oakland, Cal.
Santa Fe Lumber Co.,
Seventeenth and De Haro Sts., S. F.

MANTELS
Mangrum & Otter ....561 Mission St., S. F.
S. Ginsberg & Co....1029 Larkin St., S. F.
Watson Mantel & Tile Co.,
457 Market St., S. F.
Thos. F. Rigney, ....9 City Hall Ave., S. F.

MARBLE
Columbia Marble Co...268 Market St., S. F.

METAL AND STEEL LATH
Baker & Hamilton, 433 Brannan St., S. F.
Roebling Construction Co.,
Crocker Bldg., S. F.
L. A. Norris & Co., Monadnock Bldg., S. F.

METAL CEILINGS
Berger Mnfg. Co....1120 Mission St., S. F.
San Francisco Metal Stamping & Corrugating Co.....Treat Ave. and 19th St., S. F.

METAL DOORS AND WINDOWS
Capitol Sheet Metal Works,
1927 Market St., S. F.
Dahlstrom Metallic Door Co., Western office, Rialto Bldg., S. F.
S. Ginsberg & Co., 1029 Larkin St., S. F.
Metal Window Screens, Mailler Searles, Agt., 817 Monadnock Bldg., S. F.
Rulofson Metal Window Works,
Eighth and Brannan Sts., San Francisco.
Waterhouse & Price.....59 Third St., S. F.
Fink & Schindler Co., 218 13th St., S. F.
Zahner's Monarch Hollow Metal Doors and Trim, Boyd & Moore, Inc., Agents,
356 Market St., S. F.

METAL SHINGLES
Meurer Bros., J. A. McDonald, Pacific Coast Agent.... Third, near Townsend St., S. F.
San Francisco Metal Stamping & Corrugating Co.....Treat Ave. and 19th St., S. F.
J. R. Hooker Co., 1530 Howard St., S. F.

MIXERS
Enterprise Foundry Co., 200 2d St., S. F.

OIL BURNERS
S. T. Johnson Co...1334 Mission St., S. F.
Fess System Co.....220 Natoma St., S. F.


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**WHITAKER & RAY-WIGGIN CO., SAN FRANCISCO**

School Desks

## ARCHITECTS' SPECIFICATION INDEX—*Continued*

OPERA CHAIRS
C. F. Weber & Co....365 Market St., S. F.
Whitaker & Ray-Wiggin Co., San Francisco and Los Angeles.

ORNAMENTAL IRON AND BRONZE
J. G. Braun.....Chicago and New York
California Artistic Metal and Wire Company, San Francisco.
Standard Company, represented by Mailler Searles.....817 Monadnock Bldg., S. F.
Standard Iron Works, 235-39 Shipley St., S. F.
Golden Gate Structural & Ornamental Iron Works .....1479 Mission St., S. F.
C. J. Hillard Company, Inc., 211-215 8th St., S. F.
West Coast Wire & Iron Works, 861-863 Howard St., S. F.

PAINT FOR STEEL STRUCTURES
The American Bitumastic Enamels Company, Hill, Hubbell & Co., Pacific Coast Agents, Fife Bldg., S. F.
Buswell's Steel and Concrete Paints, Oakland, Cal.
Detroit Superior Graphite Paint, manufactured by Detroit Graphite Company. C. W. Pike Company, Coast Sales Agents, 22 Battery St., S. F.
Glidden's Acid Proof Coating, sold on Pacific Coast by Whittier, Coburn Company, San Francisco and Los Angeles.

PAINT FOR CEMENT
Bay State Brick and Cement Coating, made by Wadsworth, Howland & Co. (Inc.). [See adv. in this issue for Pacific Coast agents.]
Glidden's Liquid Cement, sold on Pacific Coast by Whittier, Coburn Company, San Francisco and Los Angeles.
Samuel Cabot Mfg. Co., Boston, Mass., agencies in San Francisco, Oakland, Los Angeles, Portland, Tacoma and Spokane.
The American Bitumastic Enamels Company, Hill, Hubbell & Co., Pacific Coast Agents, Fife Bldg., S. F.
Vitrolite Cold Water Paint, sold by Boyd & Moore.....356 Market St., S. F.
WESCO—West Coast Kalsomine Co., 110 Hansford Bldg., S. F.
Worden-Meeker Varnish Co., S. F. & Oakland.

PAINTS, OILS, ETC.
Bass-Hueter Paint Company, Mission, near Fourth St., S. F.
R. N. Nason Company.....San Francisco
"Biturine," sold by Biturine Co. of America, 24 California St., S. F.
Glidden Varnish Co., Cleveland, Ohio, represented by Whittier-Coburn Co., S. F. and Los Angeles
Paraffine Paint Co....38-40 First St., S. F.
Standard Varnish Works, represented by W. P. Fuller & Co., S. F. and Los Angeles.
Wesco—West Coast Kalsomine Co., 110 Hansford Bldg., S. F.
Worden-Meeker Varnish Co., S. F. & Oakland.

PHOTO ENGRAVING
California Photo Engraving Co., 121 Second St., S. F.

PHOTOGRPHY
Arthur J. Brunner Co,..47 Kearny St., S. F.
Gabriel Moulin.....153 Kearny St., S. F.

PIPE—CORRUGATED INGOT IRON
California Corrugated Culvert Company, Los Angeles and West Berkeley.

PIPE—VITRIFIED SALT GLAZED TERRA COTTA.
A. Clark & Sons, 112 Natoma St., San Francisco
Gladding McBean & Co., Crocker Bldg., S. F.
Pacific Sewer Pipe Company, I. W. Hellman Bldg., Los Angeles
Steiger Terra Cotta and Pottery Works, Mills Bldg., S. F.

PLASTER
Empire Plaster, The Nevada Gypsum Co., Pacific Bldg., S. F.

PLASTER WALL BOARD AND WOOD FIBRE
Mound House Plaster Co., Monadnock Bldg., S. F.

PLASTERING CONTRACTORS
D. Ross Clarke.....708 Pacific Bldg., S. F.
Geo. MacGruer....319 Mississippi St., S. F.

PLUMBING
J. E. O'Mara. .....443 Minna St., S. F.
Jno. G. Sutton Co.....243 Minna St., S. F.
Peterson-James Co.....710 Larkin St., S. F.
The J. Looney Company, 85 City Hall Ave., San Francisco
Wetzel & Grass.....105 Fulton St., S. F.
Wittman, Lyman & Co., 315 Polk St., S. F.

PLUMBING FIXTURES
Crane Co....Second and Brannan Sts., S. F.
Jno. Douglas Co....571 Mission St., S. F.
Haines, Jones & Cadbury Co., 851-859 Folsom St., S. F.
P. F. Howard Co., Second and Folsom Sts., S. F.
Louis Lipp Company, Winton Place, Ohio. Pacific Coast Office, 693 Mission St., S. F.
Mark-Lally Co..First and Folsom Sts., S. F.
J. L. Mott Iron Works, D. H. Gulick, selling agent .....135 Kearny St., S. F.
N. O. Nelson Mfg. Co., 978 Howard St., S. F 406 E. 4th St., Los Angeles
Geo. H. Tay Company, 617 Mission St., S. F

PLUMBING MATERIALS
Mark-Lally Co., First and Folsom Sts., S. F.

PLUMMERS' SUNDRIES
Orca Sanitary Toilet Seat, manufactured by Orca Mfg. Co., 700 Hooker & Lent Bldg., S. F.

PLUMBING SUPPLIES
Crane Company, 2d and Brannan Sts., S. F.
P. F. Howard Co., 2d and Folsom Sts., S. F.
N. O. Nelson Mfg. Co., 978 Howard St., S. F.

POTTERY
Steiger Terra Cotta and Pottery Works, Mills Bldg., S. F.

GEORGE PETERSON G. HAZELTON WILSON

**PETERSON & WILSON**
*Contractors and Builders*

JOBBING, STORE AND OFFICE FITTING
TELEPHONE FRANKLIN 4677

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GEORGE H. TAY CO. SAN FRANCISCO, CAL.

## ARCHITECTS' SPECIFICATION INDEX—*Continued*

PULLEYS, SHAFTING, GEARS, ETC.
Meese and Gottfried Company.....San Francisco, Seattle, Portland and Los Angeles

PUTTY
P. F. Virgin Co.....713 Brannan St., S. F.

ROAD MACHINERY
Iroquois Iron Works (Barber Asphalt Company) .....Head Bldg., S. F.

RAILROADS
Southern Pacific Co.....Flood Bldg., S. F.
Western Pacific Railroad..Mills Bldg., S. F.

ROLLING DOORS, SHUTTERS, PARTITIONS, ETC.
Lilley & Thurston Co., Rialto Bldg., S. F.
C. F. Weber & Co.....365 Market St., S. F.

ROOFING AND ROOFING MATERIALS
Biturine Co. of America,
24 California St., S. F.
J-M Asbestos Roofing, sold by H. W. Johns-Manville Co., Agencies in all the principal West Coast cities.
F. W. Bird & Son, East Walpole, Mass., Coast Agents, Lilley & Thurston Co.,
Rialto Bldg., S. F.
Mallott & Peterson,
682 Monadnock Bldg., S. F.
Marsh Brothers .....Call Bldg., S. F.
Meurer Bros. Co.....630 Third St., S. F.
L. B. Hooker Co..1530 Howard St., S. F.
"Ferroinclave," the Brown Hoisting Machinery Co., Coast Agent, Chas. A. Levy,
Monadnock Bldg., S. F.
Fibrestone & Roofing Co.,
Mutual Savings Bank Bldg., S. F.
Genasco Ready Roofing, sold by Parrott & Co.....320 California St., S. F.
Hydrex Felt and Compound, sold by Rolph, Mills & Co.,
Western Metropolis Bank Bldg., S. F.
Mackenzie Roof Co., 425 15th St., Oakland.
Meurer Bros. Co., A. H. McDonald, Coast Representative.....630 Third St., S. F.
H. D. Samuel Company,
1054 Monadnock Bldg., S. F.
United Materials Co.... Balboa Bldg., S. F.
Western Builders' Supply Co.,
680 Mission St., S. F.

ROOFING TIN
N. & G. Taylor Co.....Philadelphia, Pa.
J. A. Drummond, 422 Chronicle Bldg., S. F.

RUBBER TILING AND MATTING
New York Belting & Packing Co.,
129 First St., S. F.

SAFES
Howe Scale Company, 333 Market St., S. F.

SAND
Del Monte White Sand, sold by Pacific Improvement Company, Crocker Bldg., S. F.
J. P. Holland.....Army St. Wharf, S. F.

SANDSTONE BRICK
Sacramento Sandstone Brick Co.,
39 Stevenson St., S. F.

SASH CORD
Puritan Sash Cord Company. (For Coast Agents, see advertisement.
Samson Cordage Works, Manufacturers of Solid Braided Cords and Cotton Twines
88 Broad St., Boston, Mass.
Silver Lake A Sash Cord, represented by Sanford Plummer,
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Refer to page 18

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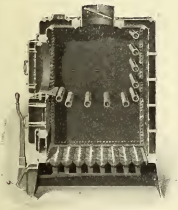

*Interior Views of Type D*

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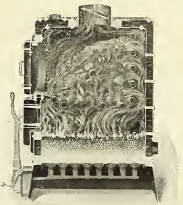

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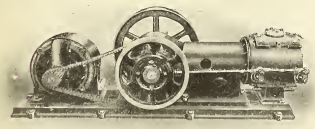

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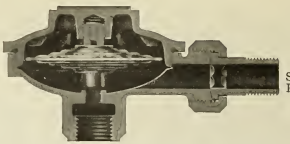

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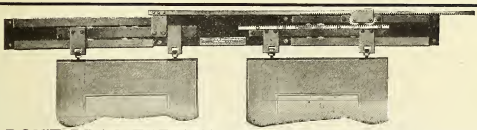

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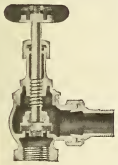

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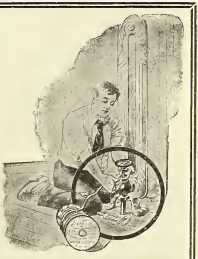

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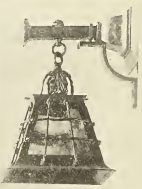

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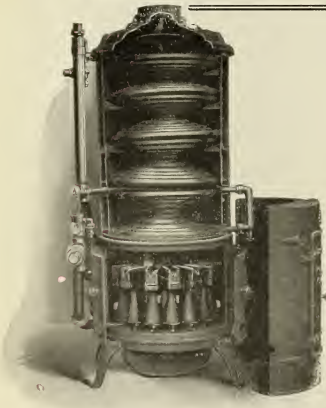

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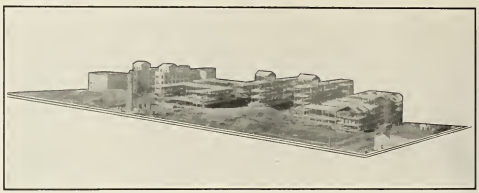

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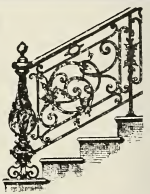

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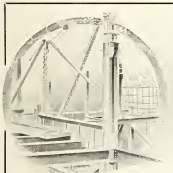

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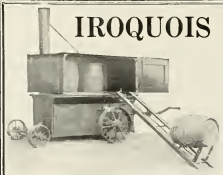

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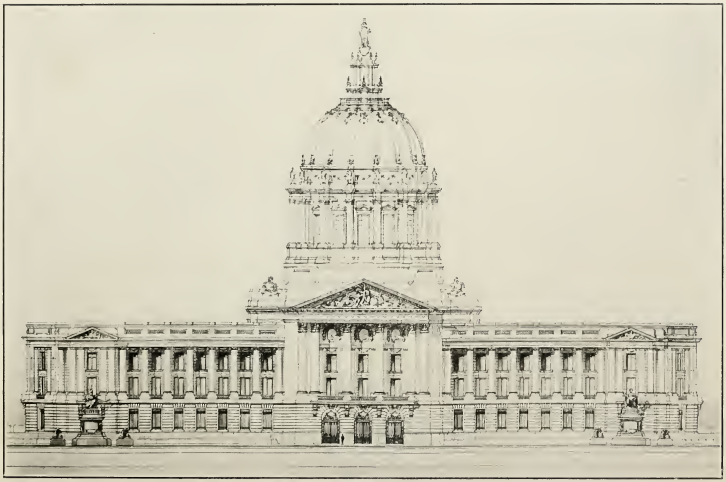

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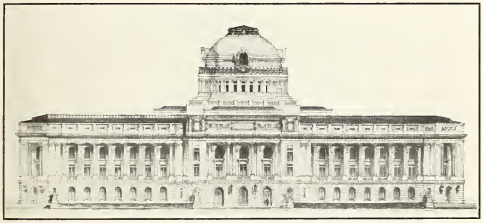

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By JOHN BAKEWELL, Jr.*

IN the solution of an Architectural problem it is necessary, first to study the uses to which the building is to be put, and then to find that arrangement of plan which meets the requirements in the most simple and direct manner; a plan that is organic, in which the component parts are tied together by the simplest possible system of circulation.

These component parts should be put in their proper relation both as to location, and as to size and at the same time the problems of lighting, of grouping into departments, etc., should be taken care of.

Then above all the plan should express some real Architectural idea, and it is very difficult to achieve the other qualities such as simplicity, directness and clarity, without this unifying idea or feature.

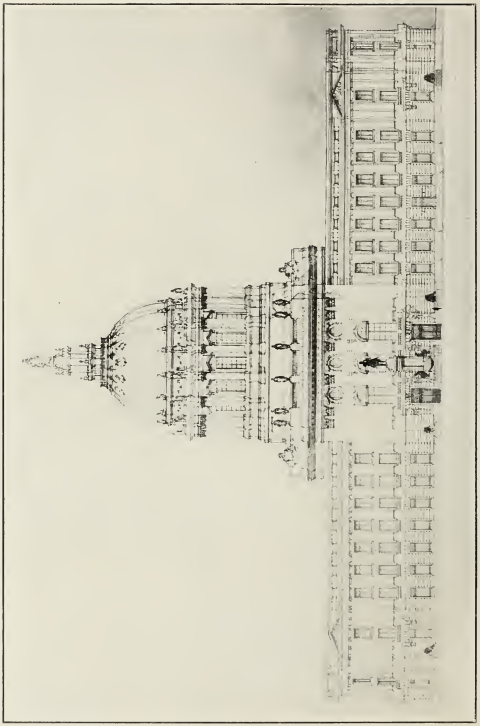
When this idea to be expressed is finally selected it can by study be made more and more lucid and apparent, so that it is evident to any one at first glance.

The study of the program comes first, then the unifying idea and then the study of the elements.

To the layman the only thing in a set of drawings that really catches the eye is the outward expression of the plan in the elevations. Here again the idea which grows out of the plan must dominate to such an extent as to give beauty and interest to the whole composition. Here, too, a study of the proportions of the various parts as units and their proper relation to each other

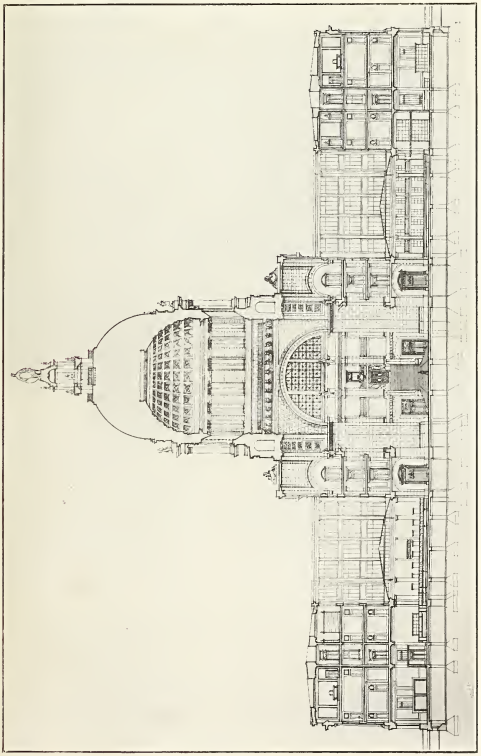
† In this competition there were twenty prizes of $1,000 each, besides the first award. The drawings of all the successful twenty are shown either in elevations, sections or floor plans.

*Senior member of the firm of Bakewell & Brown, awarded first prize in the competition.

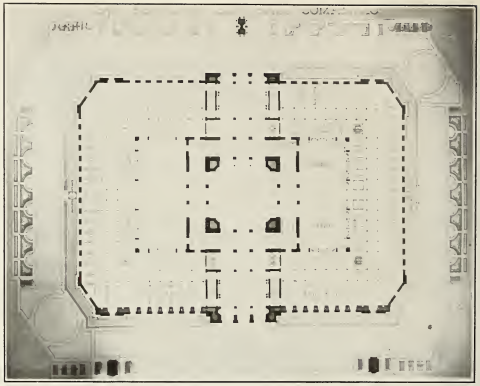


West Elevation, San Francisco City Hall

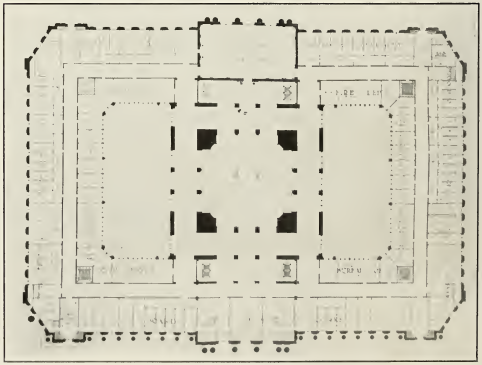
Bakewell & Brown, Architects



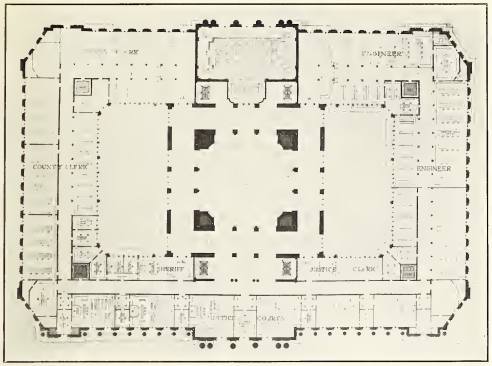
*Section San Francisco City Hall* — *Bakewell & Brown, Architects*



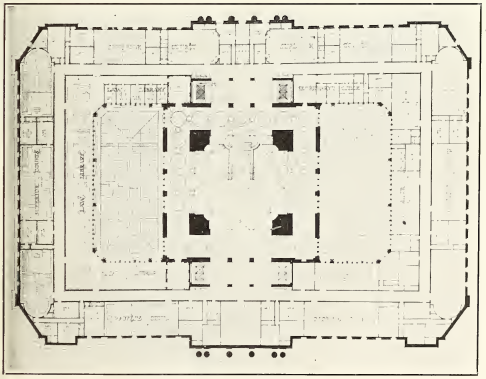
*Ground Floor Plan* *Bakewell & Brown, Architects*



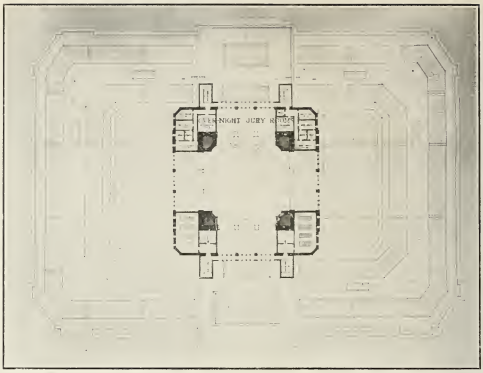
*Second Floor Plan, Bakewell & Brown, Architects*




*Third Floor Plan, Bakewell & Brown, Architects*




*Fourth Floor Plan, Bakewell & Brown*




*Roof Plan, Bakewell & Brown, Architects*

will express the original idea more and more clearly until it at last is easily apparent.

Now, so far, we have merely tried to analyze the process of reasoning and composing that every competitor has gone through in arriving at his final result.

In the recent competition there were a great many different schemes or ideas—some of them very clearly and beautifully expressed. The first thing that struck one in looking at the different sets of drawings was the idea. Then a study of the plans would show whether the scheme was based upon a proper interpretation of the program. In other words the spectator takes just the opposite method of reasoning from the author. He sees the result and then gradually works backward to the original program.

We have been asked to give a description of the winning design for the City Hall, and the simplest way to do this is to first explain the process of evolution through which all designs must pass before completion.

The central feature was clearly indicated by the program, whether it be a dome or tower. And not only by the program of this building itself but by the larger program of the whole civic center. This group of buildings should be crowned by a dominating central feature, and the importance of the City Hall as well as of the buildings that will flank it seems to call for the noblest of all Architectural forms, the dome.

Then, too, the interior effect of a monumental dome running up through the various stories serves to unify the whole building.

On the ground floor this is made the center of circulation from which one passes directly into the large departments of the ground floor. These departments have been simplified to two immense spaces, the subdivisions being arranged just as those of a large banking establishment, or of a large corporation would be, by means of glass partitions and counters.

In this way the plan is simplified to the last degree, and the central feature becomes strongly emphasized.

On the upper floors the two side courts flank and light the dome, and the circulation divides itself into two continuous corridors tied together again by the central feature.

In the study of the exterior the two story order of the wings gives good scale and makes it possible to get a central dominating façade feature. Then in turn the dome dominates the whole.

The order is of such scale as to give a practical working unit of bays for subdivision into offices. At the same time it is not so large as to affect the lighting.

To sum up, the feature of the plan is an interior dome or rotunda forming a center of circulation, while the feature of a façade is a gradual building up of the Architectural interest from the smaller order of the wings to the larger central order and pediment, and finally, to the culminating dome. Both plan and façade emphasize and point to the dome, the crowning center of inteerst.

* * *

## The San Francisco City Hall Competition

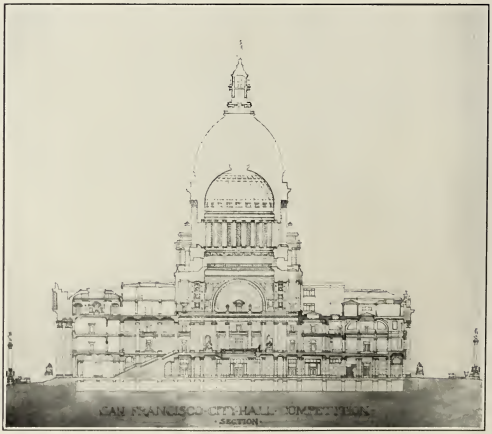
By B. J. S. CAHILL, Architect.

FROM the cash prize point of view the recent San Francisco City Hall Competition was the biggest ever held on the Coast. In the Phoebe Hearst Competition for the University of California, eleven firms received twelve hundred dollars apiece. The winner got ten thousand and an additional six thousand for revising his drawings. In the competition just held, twenty men are to receive a thousand dollars each and the winner nearly fifty thousand, assuming, as in the case of the University Competition, that the winning architects supply the preliminary plans only. In the event of the successful architects carrying the work through to completion, their recompense will be six per cent of the cost of the building. And the cost will not be less than four million dollars.

But whereas the University Competition was open to the whole world, including Japan—the San Francisco City Hall Competition excluded all the world—even Oakland. In the first competition, although the buildings were to go up in Berkeley, only three men from California competed. In the City Hall contest the plans judged were seventy-three. The writer has urged the benefit of confining competitions to one locality. But outside of the rather sordid notion of keeping the money at home not much advantage from an artistic standpoint really comes of local effort. The modern world knows nothing of intellectual or artistic isolation such as prevailed in olden times. With our designers all brought up in the same school, or taught by teachers from the same school, the aims and ideals of all of us are similar. In this broad land the universal tendency is towards a common standard, and the common standard is set by the few men who achieve the largest success. Books, photographs and periodicals spread the work of the current year equally before the eyes of the entire architectural craft. If there is any difference developed in different localities, it is not that New York and San Francisco are going different roads towards different architectural goals but that one merely lags behind the other in making for the same goal.

In reviewing the result of an important competition it is well to bear this in mind. Those of us who imagine that such an enticing appeal to the talent of a town would bring out local characteristics or new tendencies were woefully disappointed. There were not lacking schemes of originality, modernity and daring. Some designs were unhackneyed in treatment or unfamiliar in

*East Elevation* *John Baur, Architect*



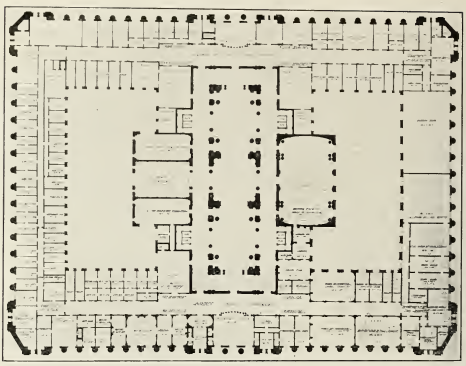

*Section Plan* *John Baur, Architect*

form. Some of the "*partis*" were departures. A few of these were encouraged, but not all. Surest encouragement and victory itself went to the perfectly obvious, the two-court plan, even the four-court plan and the inevitable dome—the dear old comfortable fat familiar dome! It may be that in this instance the safe conservative thing offered was so attractively served up that it won out over fresher offerings not so well served up. The new City Hall, as we all know, must be finished by 1915. For work to be done in a hurry, and municipal work at that, no doubt it is wise to choose the "regular thing." Even in modern work where time is not such an important element there are good arguments in favor of adopting some typical form or feature that has been done well, and done often rather than risk failure in attempted creations of our own. The leading architectural firm of the country has shown how successfully this can be done. The progressives in the profession who lament that the chosen design is a generation behind the times might take consolation in the fact, too, that public work must almost necessarily be behind the general line of march. It indicates the architectural status of the community *en masse*, rather than the standard of the cultivated few. A City Hall design should please the people rather than the profession. It should express the voters' idea of archiecture rather than the ideas of the votaries of architecture. And perhaps after all this community judgment is the best of all judgments in the long run.

An Architectural Competition consists of a trinity of elements, all equally important, namely, the conditions, the competitors, and the critics. If the first and third are unsatisfactory there will be none of the second.

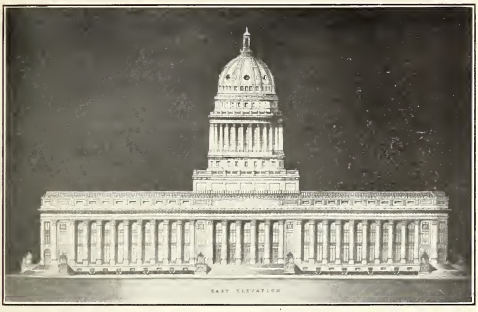
The programme for the City Hall was attractive in its remunerative aspect, although not without puzzling features in detail, and, worst of all, an indeter-

*East Elevation* *Charles Peter Weeks, Architect*

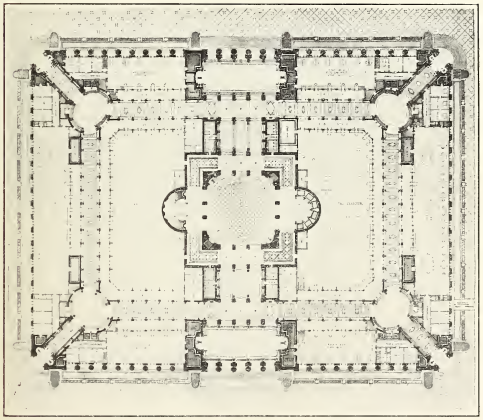


*Floor Plan* *Charles Peter Weeks, Architect*

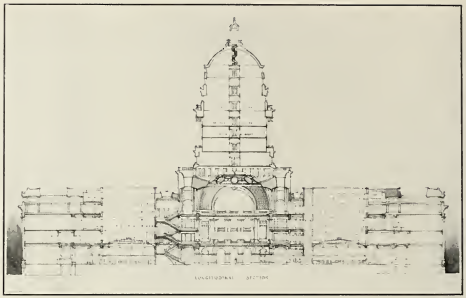
minate site. An old proverb has it that between two stools one falls to the ground. A building schemed to sit on two sites is in similar danger to a man on two seats. This was the case in Portland. The Auditorium Competition was programmed before the site was finally and fully determined. The need was generally expressed to have a completed building within a year. This is, comparatively speaking, about the same rate of speed needed for our City Hall. With the usual wasteful haste so typical of some of the unwise men of the West, the matter calling for deliberation was hurried, and the negotiations calling for speed were postponed. The result is that, although it is a year since the programme was issued and although plans were selected in desperate haste, the site is not settled yet nor the building begun. Portents are not wanting, to those who can read them, that a similar fate awaits us here in San Francisco. It is devoutly to be hoped that it is not so. But it would not be surprising if the whole Civic Center project were to come to naught and even the construction of the City Hall be indefinitely delayed. In the writer's opinion it was both immoral and injudicious to attempt to remove the City Hall from the old site. It savors of a trick. The administration was solemnly pledged to a new City Hall on the old site. Nothing is gained by the change architecturally. Meantime with a "draughtsman's" Civic Center scheme calling for more land than is needed or can be adequately paid for, a spirit of uneasiness and suspicion is gaining ground among the very property owners whose good will is most desired. No city improvement scheme will succeed or has a right to succeed which works any injury on even one citizen. The attempt to force citizens to release $5,000,000 worth of property for a payment of $4,000,000 is a rank injustice. Such an outrage, even if successful, will work harm to every city improvement scheme now under way throughout the whole country. Suppose the administration proposed to dock 20% from the



*East Elevation* *Righetti & Headman, Architects*

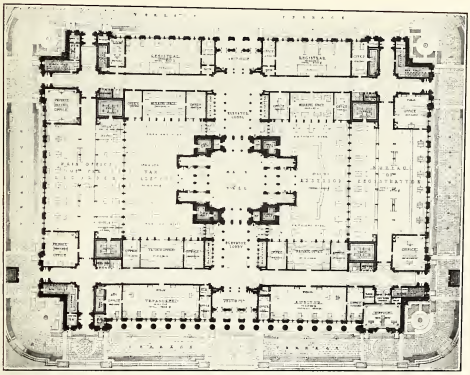


*Ground Floor Plan* *Righetti & Headman, Architects*



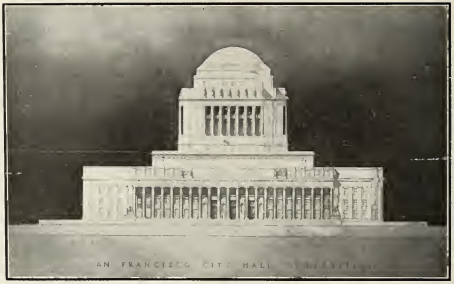
*Section* *Righetti & Headman, Architects*

*Elevation* *L. B. Dutton & Co., Architects*

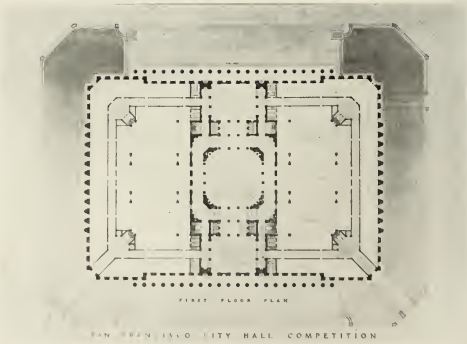


*First Floor Plan* *L. B. Dutton & Co., Architects*

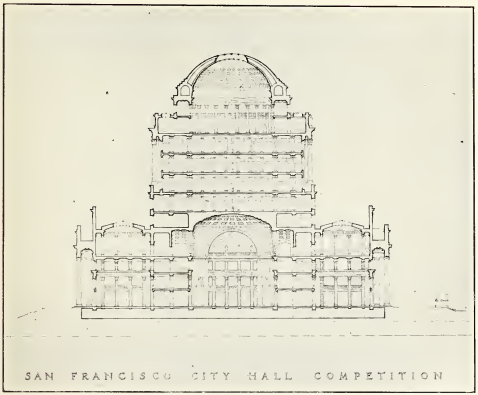
*Front Elevation* *Oser Bros., Architects*



*East Elevation* *Bliss & Faville, Architects*




*Ground Floor Plan* *Bliss & Faville, Architects*




*Section* *Bliss & Faville, Architects*

*East Elevation* *Wollett & Wollett, Architects*

price of materials and the labor going into the City Hall, would the howl going up be less audible if a judge should urge that the loss to working and material men was the price of their patriotism?

As a matter of fact, the new site created for the City Hall by cutting the original triangle up and adding part of a street to square up the balance was not necessary. But the mania for uniformity and formality—for straight streets and square buildings—seems to override every other consideration. One would welcome a curve, a bend, an angle or a little irregularity. We already have hundreds of miles of straight streets and hundreds of rectangular blocks. The old line parallel to Market street might have very well been retained. An approach could have been made to the City Hall by an oblique widening of McAllister street. We could well have spared so much squareness and straightness in the Civic Center plan had we a little more of those attributes in the way it is being carried through. The owners would appreciate a square deal in the matter of prices and the public generally would be better served by straight-forward announcement of the city's intentions at the start rather than by the tortuous method of trapping the public into one course of action after baiting it with promise of another.

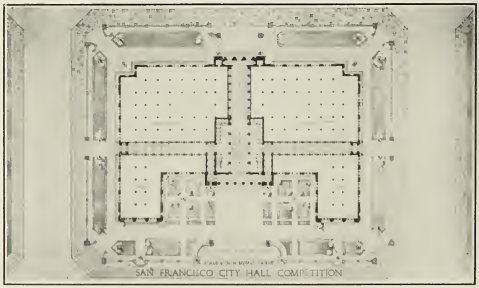
A change of site, moreover, while it may have made no difference in the judgment of the plans, certainly does make a difference in the fitness of the building. For example, the Van Ness site does not require the dominating monumental feature to be in the center of the building mass at the intersection of two axes. Nor is there any need of clipping the corners of the block. Had these two restrictions been absent from the beginning the entire character of the competition would have been different. The announcement of the change before closing the competition was an extremely ill-advised procedure and in spite of all solemn announcements to the contrary it is perfectly clear that the change worked an injustice on some of the competitors. The more conscientious and ingenious the architect, the greater would be his handicap.

Let me explain: A designer in laying out the first dummy scheme on the most obvious layout—the four courts—would soon learn, that in accommodating the departments properly and allowing sufficiently for real circulation that there was not enough "cubage" left over for monumental circulation on a scale big enough to warrant a great dome. And his architectural instinct would warn him that the only dome that could rise from the center and dominate a building 300x400 feet must be a very big one. And a dome, besides being big, must be hollow. Right instinct would warn our architect against attempting to put any departments in a dome. He might also argue that a dome is a recognized feature of a State Capitol or County Seat, at least it seems to be generally so understood. For these reasons he would turn down the dome idea at the outset. The programme will not permit it, nor is it suitable for a City Hall. He would then turn to the tower as the monumental feature. A tower may with propriety be used to house certain overflow departments. But a tower arising from the middle of a rectangular ring of pavilions is again bad architecture. What is to be done? What is the answer? If our architect realizes that this is the crux of the problem, as he should, he will devote all his energies to finding it. From much hard thinking and a tryout of many *partis* will come some solutions about as follows: One idea will be to abandon the central monumental feature altogether. Another, not so clever, will treat it in a wholly subordinate way. A third consists in striving to bring the tower down to the ground by putting it in an open "cortile" of a "U" shaped scheme with a peristyle across the open end. Carrying logic still further a quite brilliant solution lies in the "I" plan which allows the tower to

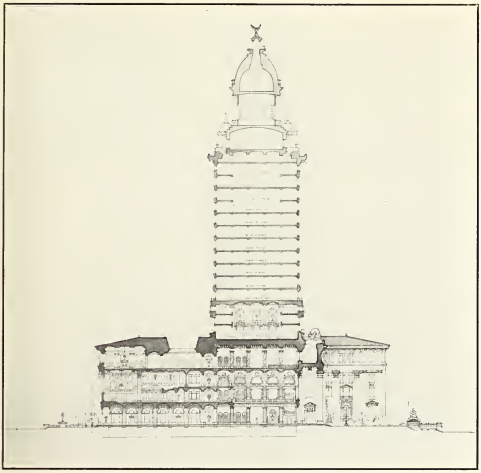
*West Elevation* *Wollett & Wollett, Architects*

*East Elevation* *Shea & Lofquist, Architects*

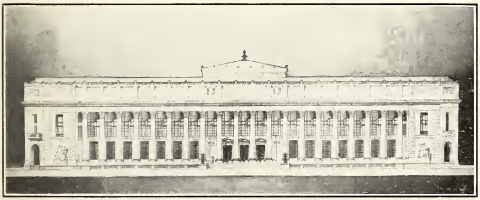
*East Elevation* *Ralph Warner Hart, Architect*

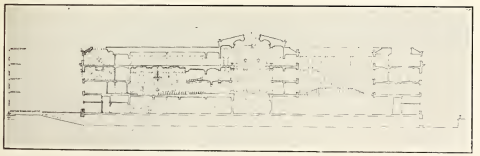



*Ground Floor Plan* *Ralph Warner Hart, Architect*

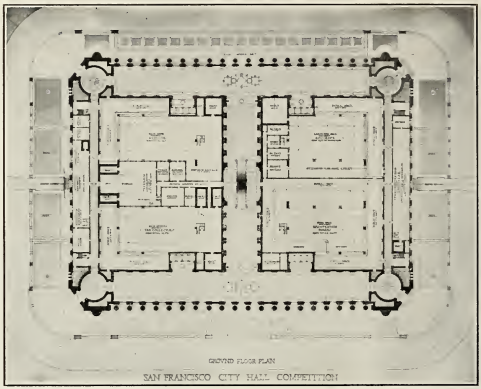


*Transverse Section* *Ralph Warner Hart, Architect*

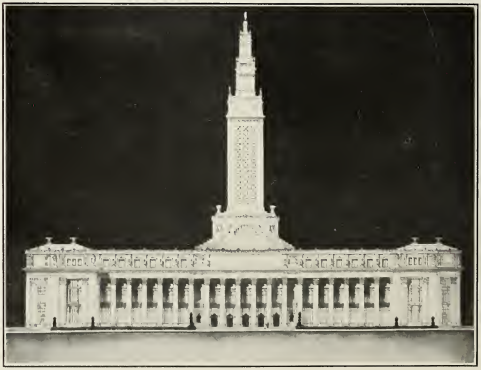




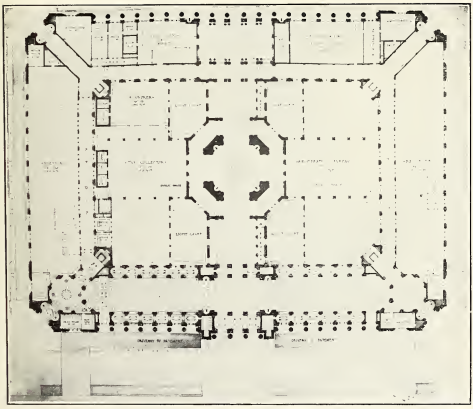
*East Elevation and Section* *Coates & Traver, Architects*




*Ground Floor Plan* *Coates & Trover, Architects*



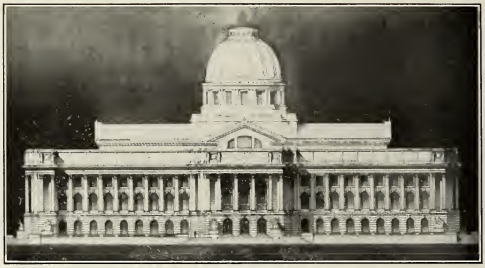
*East Elevation* *Edward T. Foulkes, Architect*



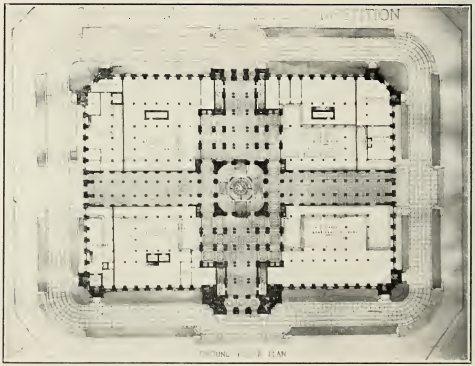
*Ground Floor Plan* *Edward T. Foulkes, Architect*

straddle the stem and touch ground on both East and West sides. If to this ground plan, the council chamber be added so that one-half becomes an "E" and if the three projecting pavilions be united with a peristyle on the supposed Civic Center side this would yield on the whole the most satisfactory solution. A high galleried nave ploughed lengthwise through the center of the stem would yield concentrated yet monumental circulation serving all departments at right angles to this nave or at each end of it. There would be no long corridors and no inner light courts and no need of wandering round and round in a ring or system of rings which in some of the plans submitted seems to have been mistaken for "circulation." Perhaps the word is to blame. "Circulation" unfortunately means anything *but* wandering around in a circle. If there must be such a condition it should occur in the monumental region and not along isolated, thin, dark passages.

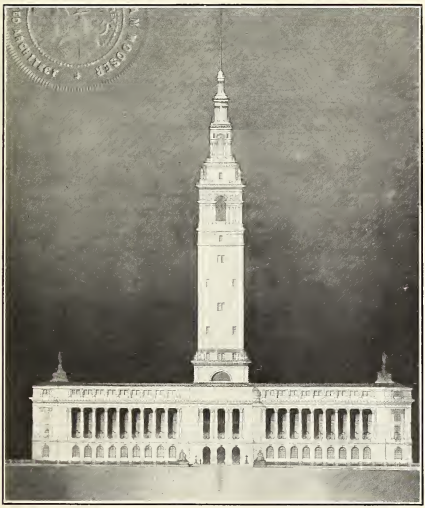
Now, the architects who thought out their problem along these lines evidently wasted their time. They stood no nearer to winning than the men who designed thin, inadequate or illogical domes, or those who carried tall towers up and out of a clutter of tiles and skylights. So also did those conscientious designers waste time who took to heart too seriously the odd chamfering of the block's corners. The view from Marshall square naturally appeared of great importance to many. But since every one of the judges knew that the building would probably not go up on Marshall square at all—these efforts again acted as a handicap. The man who was not particular about these things stood as good a chance as the conscientious man who was particular about them.



*East Elevation* *Ward & Blohme, Architects*



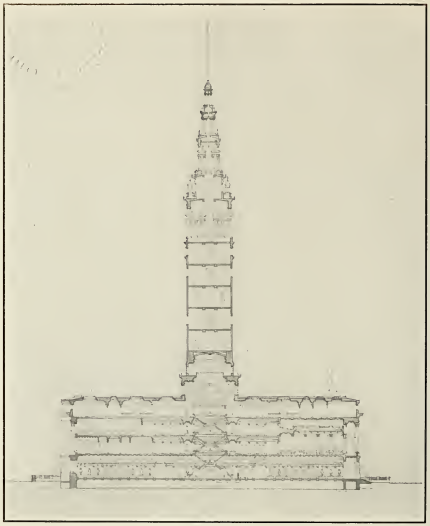
*Ground Floor Plan* *Ward & Blohme, Architects*



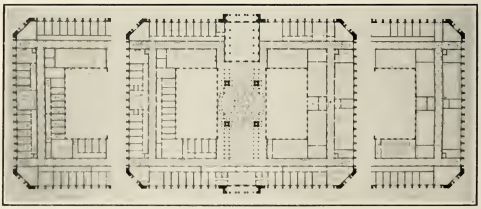
*East Elevation* *William Mooser, Architect*

There used to be a saying among builders when competition was keen that the only way to secure a contract was to overlook an item or make a mistake. And there seems a sort of truth in the remark made to the writer that the only way to win a competition is to ignore the programme. To put it another way, the man who religiously adheres to the programme has a small chance of winning. In fact, nowadays everything seems to be against the conscientious man. In business, sport, and politics, as well as in the professions, it is the same story.

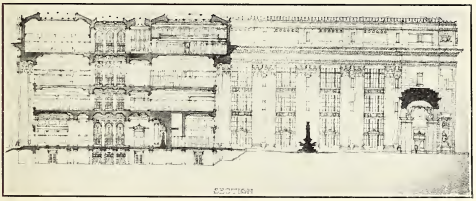
These remarks are made, not to cavil at the chosen design, but to draw attention to the fact that the winning architects had a conception that so obviously transcended the conception of the programme makers. A competition is interesting and fair in the proportion that the conditions are interpreted in the same spirit by everybody. There is something wrong with any programme which leads one able competitor to omit a central monumental feature altogether and another to allot a sixth of the entire floor to one. It certainly is worthy of note that this one central feature which is by far the biggest one thing in the winning design, the biggest thing in all the designs—that this huge



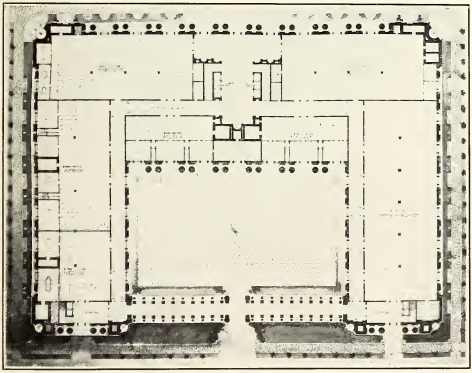
*Cross Section* *William Mooser, Architect*



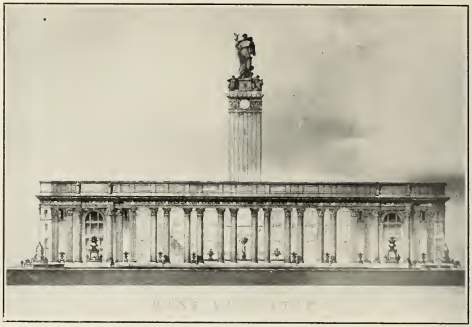
*Second Floor Plan* *William Mooser, Architect*



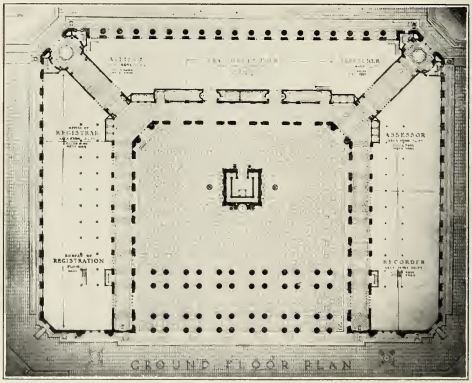
*Elevation and Section* *Milton Lichtenstein, Architect*



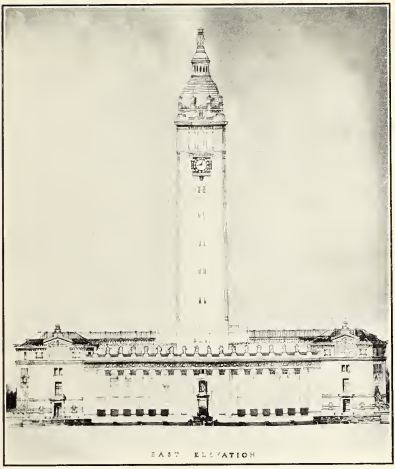
*Ground Floor Plan* *Milton Lichtenstein, Architect*



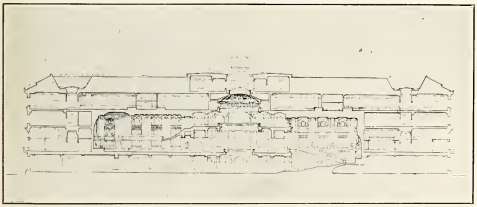
*West Elevation* *Louis P. Hobart, Architect*



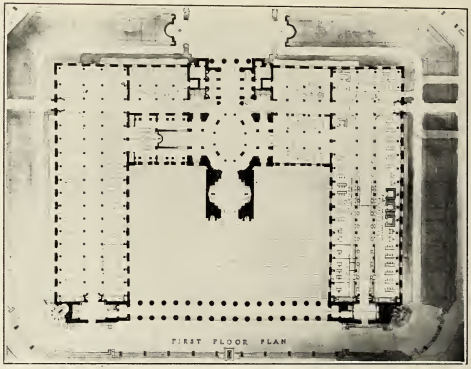

*Ground Floor Plan* *Louis P. Hobart, Architect*



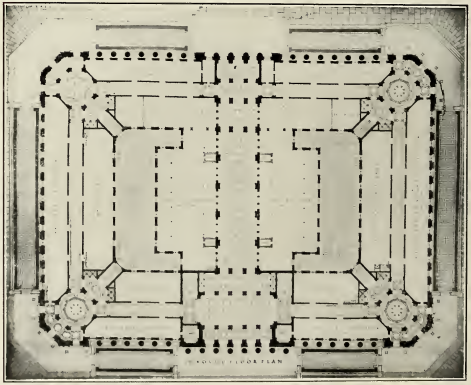

*East Elevation* *Wm. C. Hayes, Architect*



*Section* *Wm. C. Hayes, Architect*




*Ground Floor Plan* *Wm. C. Hayes, Architect*



*Ground Floor Plan* *O'Brien & Werner, Architects*

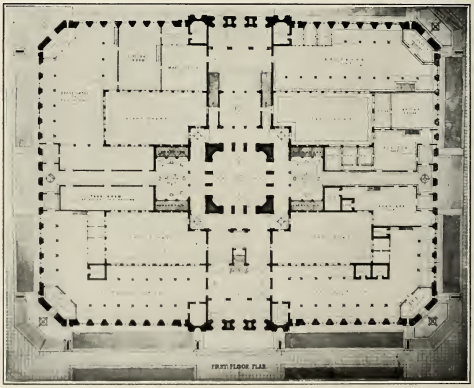
*East Elevation* *O'Brien & Werner, Architects*

dominant feature should be covered so casually in the programme which says that such a thing *may* be introduced! Why should this big feature be a matter of indifference at the outset, and of prime importance at the finish? In the words of Hashimura Togo—"We inquire to know."

## A Word About The Winning Plans

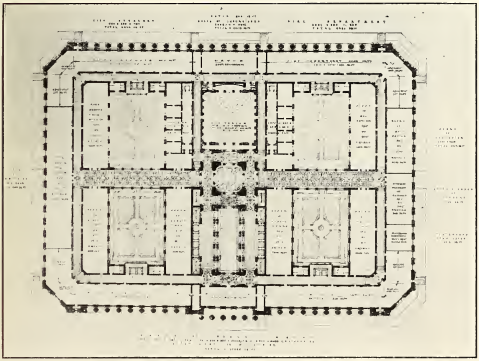
While one must be sorry for the mass of the competing architects who did their duty in sticking rather closely to a somewhat pinching programme, the winners are to be congratulated for their boldness and their nice sense of the psychological aspect of the competition. And this is no disparagement whatever of the architectural solution. They wisely chose the dome. They made it big and they made it hollow. The ample square gallery around it providing the monumental circulation is splendidly conceived. The straight-forward way that it becomes a part of the secondary circulation around each of the flanking courts on the second and fourth floors is managed in a larger, broader way than on any other plan. On the first and third floors this great square leads directly to the larger departments in a free, clean cut manner that is altogether masterly. The great fault most generally felt with most of the drawings was in the planning. Most of the competitors seemed to have been too soon satisfied; to have spent much too little time on small scale sketches and full scale studies. The plans of Bakewell & Brown give all evidence of complete and exhaustive study. Particularly fascinating is the first story. It was the cleverest bit of plan making, pictorially, practically and departmentally, of all the plans recently on exhibition. To begin with, this floor was the most difficult to lay out of all the floors. Of all the human faculties the synthetic is perhaps the greatest—the power to generalize. This plan shows a really brilliant bit of generalization which, simple as it may look, is after all a stroke of genius. The big sweep of cross circulation from the front to the rear (the only public entrances) is of course a very good arrangement. It left the big departments in the largest groups and provided the necessary proximity between offices that are functionally allied. The stroke of genius was in putting the Auditor, Assessor, Tax Collector and Treasurer together in the South half under the general title of "Finance Group." The other half housed what might be called the documentary departments—where voting citizens and their deeds are on file and on record. The "pochet" of this plan is well worth study. The dome and its connection with the central large order pavilions is well expressed on this plan. It is one of the vital features of the whole design. Just as interesting is the clever arrangement of counters, furniture, vaults and stairs to make clear the secondary circulation. Other devices to "grey" the plan in the needed areas and to bring out the boundaries of the building are all worth study. The

*Elevation* *Geo. W. Kelham, Architect*




*First Floor Plan* *Miller & Colmesnil, Architects*

*Elevation* *Houghton Sawyer, Architect*



*Ground Floor Plan* *Houghton Sawyer, Architect*

simplicity and symmetry of the whole plan, moreover, is not artificial, as one might at first suppose.

One might criticise the position of the main central stairway. A great vaulting dome will cause visitors to look up, and these hard marble steps suggest unpleasant consequences.

A glance at the cross section will show the bigness of the central dome. The scale of the four great piers, it will be noted, is actually bigger than anything on the exterior façade. The section will also show that this central feature is paid for by the rather crushed looking courtrooms on the fourth floor. A court room needs height for very real and practical reasons because height gives dignity. And to uphold the dignity of the law is really more important than to have fine buildings. The fourth floor plan likewise reveals corridors that appear inadequate. The overflow of a group of busy courtrooms demands much ampler circulation. The corridor outside a courtroom is a veritable *"salle des pas perdus"* and should be treated as such. This can be effected when the courtrooms are made higher by putting the jury rooms on a mezzanine, and throwing the "floorage" thus saved into the hallway.

The exterior design is in very fine proportion and perfect silhouette. At least so it appears when done in two dimensions. A plaster model will probably call for a still more stilted dome—if it still remains in the center. As an example of the fickleness of fashion in building as in dress, it will be noted that "the big column" did not win. Neither did the long colonnade. Whether this indicates a reaction or whether the smaller interrupted order was dictated by the needs of the composition is a difficult matter to determine. Personally, I incline to the latter view. Either the big column or the big dome must dominate. In this case I seem to feel that the dome is the important thing, and that its vertical expression was a paramount need. Furthermore, it was necessary to bring the base of the dome at one with the central façade East and West, as indicated on plan. To further emphasize the fact that the dome is one with the masonry of the front pedimented pavilion the order is enlarged and the pavilion stilted. While the eye cannot see the junction of the dome with the front pavilion it leads one easily to feel and realize it in noting the return wall of this central high pavilion, as it disappears over the parapet of the smaller wings running North and South.

The sincere and architectural handling of this whole design as a clean cut strong expression of the plan is highly commendable and in striking contrast to the very pictorial and papery presentations of some of the other competitors.

The actual drawing of these plans put them in a class by themselves. One felt the large amount of study and pains put into countless "calques." The actual rendering had the lightness and daintiness of the etcher's needle.

It is to be hoped that the successful architects will have full charge of the work and carry the building through to completion by 1915.

* * *

## Nothing to Do Till Tomorrow

"Ain't you workin' tod'y, Bill?" inquired a cockney as he encountered an acquaintance lolling by the roadside.

"No, Hi'ave a d'y all to me self."

"'Ow is that?" asked his curious friend.

"Well, you see, it is this w'y. Hi worked in a domino factory a-puttin' of the spots on the bloomin' little boards, and tod'y they are a-makin' all double blanks, so Hi 'ave a d'y off."

## Missouri State Capitol Competition Program

AS A RESULT of conferences between representatives of the American Institute of Architects and the Missouri State Capitol Commission an amended program of competition for the proposed Capitol building has been issued that satisfactorily disposes of the points in the original program to which objection was made. At a meeting of the Board of Directors, held in New York City, the present program was approved.

It is gratifying to know that those charged with this important matter were able to devise a plan of competition that meets the requirements of the law creating the Capitol Commission and at the same time provides for conditions of practice which should bring to the solution of this problem the interest and skill of all architects qualified to execute a work of such importance.

The usual methods of a preliminary and final competition will be observed. The preliminary is open to practically all architects desiring to compete. As a result of this preliminary test, ten competitors will be selected to enter the final competition. The jury of selection will be composed of three architects and the Board. The final competition will then be held, the prize winning competitor being awarded the commission, while the remaining nine will each receive one thousand dollars. The usual 6 per cent. fee will be paid to the successful competitor.

Copies of the amended program may be had by application to E. W. Stephens, chairman of the Capitol Commission, Jefferson City, Mo. The competition will be concluded September 10th.

The result of the controversy over this program will doubtless be regarded with satisfaction by every member of the profession, and the action of the institute in conserving the interests of architects will meet with general approval. The discussion has served to better inform municipal and state authorities as to the ethics governing the practice of architecture in this country and will establish a precedent that will have a far-reaching influence in future important competitions.

It may be announced as a truism that there are few questions at issue that cannot be satisfactorily adjusted when the motives of both sides are only those prompted by an earnest desire to conserve legitimate interests, be they public or private.

* * *

## Mr. Taylor's Successor

Oscar Wenderoth, of the firm of Carrere & Hastings, of New York, has been selected by Secretary MacVeagh as Supervising Architect of the Treasury Department, to succeed James Knox Taylor, resigned. Mr. Wenderoth was associated with Elliott Woods, superintendent of the capitol, in the construction of the Senate and House office buildings. He was connected with the Supervising Architect's office for six years.

Mr. Wenderoth was formerly associated with the office of Mr. Albert Kelsey, now of Kelsey & Creb, Philadelphia. He won his first laurels some eight years ago, when under a civil service examination authorized by the Tarsney Act, he passed, in a competition with two hundred college men, with the highest honors. A result of this test was Mr. Wenderoth's appointment to be senior draughtsman in the office of the Supervising Architect. Carrere & Hastings, as architects for the Senate and House buildings, selected Mr. Wenderoth as superintendent, a position in which he jointly represented Carrere & Hastings and the Government.

# The Historic Precedent in Coast Architecture

CHARLES H. ALDEN, A. I. A.*

THE section of our country commonly known as the Pacific Coast has general characteristics common to the other portions of the United States but differs in some significant respects, and this difference, is particularly marked as it relates to its architectural development. Its commercial and business activities, not unlike other portions of the country call for adequate housing; the home life of the people, the private and public demands inseparable with the true expression of the American life of today require attention from the builder as they do elsewhere. This coast is peculiarly situated for meeting these requirements and particularly in the manner in which they should be met by the architect.

The problem is a different one partly on account of our great extent of territory demanding at different points varying architectural solutions, but it differs particularly in that it is a new country—new in not having its civic, domestic and other features developed by a slow process of evolution. In comparison with older communities our cities and towns spring suddenly into existence. San Francisco grows from a gold mining camp in '49 to one of the leading cities of the world in population, civic enterprise and beauty in the short space of fifty years, is destroyed by fire, in five short years it has risen again to more than its former commanding position. Los Angeles in a lesser period of time develops from a little settlement of adobe houses to a city not far behind San Francisco in population and built up with substantial business buildings. Seattle in 1870 consisted of a few frame houses clustered around a saw mill; it now has more than a quarter of a million inhabitants housed in buildings in keeping with the life of a great city.

The situation before the Pacific Coast architect is in consequence radically different from that in the Eastern states of more gradual development and with a continuance of the influences that have carried our traditions down from the unbroken sequence of the past. It is this problem that gives us unusual responsibilities and attracts the attention of our profession elsewhere in the common desire to express adequately the conditions to be met in our architecture.

It was partly for this reason that the recent convention of the American Institute of Architects in San Francisco was so notable an event in the annals of the profession. Notable in showing to our Eastern brethren how we had built cities in a fraction of the time in which they had evolved them; notable to us in that under such favorable auspices we could obtain the point of view and criticism of our fellow workers in a different environment. The comment expressed by these visitors was singularly alike and worthy of our attention. We were congratulated on having so quickly and adequately provided for the needs of our civic life. We were congratulated still more on the splendid opportunity that the practitioners on the Atlantic Coast felt they did not have for developing an architecture unhampered by the persistent confusion of so-called styles. It was felt that thus far we had not taken full advantage of this opportunity. As one speaker expressed it, referring to the conventional work he had seen in San Francisco, "We expect that and more."

If this comment is just we should endeavor to realize our position and see how it can work to our advantage. Let us note first to what extent architecture, and particularly American architecture, should be influenced by these historic styles. This is not a new question, it is a favorite theme for the

*Paper read before the second annual convention of the Architectural League of the Pacific Coast.

student of architecture but it is particularly applicable to us on the Pacific Coast at this time.

It is theoretically right that architectural expression should be a logical development of traditional style when that style can be adapted to its new conditions and made thoroughly alive to the characteristics of the people, climate and natural surroundings. This has been the history of the successful sequence of architectural styles from the earliest days. Reviewing this history we find the habitations of primitive man a necessarily crude expression as his civilization was crude. This developed to a higher type as civilization developed until in the classic architecture of the Greeks and Romans we have an inspiration to our later architecture as their arts and letters were an inspiration to the later art and literature. When the Romans became assimilated with the barbarian nations, their architecture changed to meet the new influences, passing through the Romanesque and Gothic to the Renaissance. This Renaissance, a re-birth in architecture, letters and religion pervaded the whole civilized world and found varied expression in the different characteristics, climate and natural surroundings of the various countries. It was this Renaissance that was in vogue when this new world of ours was first colonized.

The conditions affecting architectural development in this new country since its colonization were unfortunately different from those fostering the logical development of the historic styles in the civilizations of the past. It is true that our Eastern Coast was peopled during the period of the Renaissance architecture and that the prevalent Georgian type of English Renaissance found expression in the tasteful Colonial so prevalent in the older Eastern coast cities. It was not long, however, before this natural development was upset by radically different and changing ideas as to what style our buildings ought to be. There was one period when it was thought a style must be arbitrarily assigned to each type of building. A church must be Gothic, a warehouse Romanesque, and a theater Renaissance. Then our academic enthusiast would have us interpret everything in the strict language of the Paris school. Again a certain kind of architecture was made fashionable by popular accord. Practically every known style was forced upon us in some manner at different times. This occasionally drove the individualist to extremes and he would reject all precedent and build according to his fancy. It is from these unfortunate conditions that our Eastern cities wished for relief and congratulated us on what they believed to be a better opportunity to work out some style fitted to its environment.

What the Western coast really offers is for us to determine. The architect from the East fails to realize the extent of our territory and its varying conditions. If he should undertake to design for us he would probably think our building must be "Mission," as that is the one characteristic style of the Pacific Coast. He is not cognizant of the fact that our coast is fifteen hundred miles in extent with large areas of adjacent inland country and that the climate and natural conditions vary as they do between corresponding latitudes on the Atlantic. How to design a building for the shores of Puget Sound is quite a different problem from meeting the needs of tropical California and there is no merit in forcing a style contrary to the demands of its environment.

Since historic precedent is so vital a factor let us consider what the Pacific Coast has had to offer. While the Colonial was giving a fit expression to the architecture of the Atlantic Coast colonies, the territory on the Pacific was an unsettled wilderness. The early explorers in quest of gold or adventure left no colonies. If the English navigators who visited the California

shores in the sixteenth century had left a colony of their countrymen or a similar impress on the shores to the North, the result would have been far different. As it was in this great extent of territory Spanish missionaries alone left an architectural influence in this new wilderness. They made use of the traditions existing in the country from whence they came and left us a characteristic style necessarily crude but interesting as a logical architectural adaptation. This Mission style was already well established when Vancouver entered the hitherto undiscovered waters of Puget Sound, and it was many years thereafter before any settlers found a foothold on this Northwest shore.

The California mission is the only historic style indigenous to the Pacific Coast country and this is confined to the South. The missions while not having the architectural importance of the Colonial buildings have perhaps more significance in illustrating the adaptation of historic types to new conditions. Their builders were far removed from the source of their inspiration and were at work in a wilderness where they were out of contact with any civilizing influence except such as they introduced themselves. They had a type of religious zeal not unlike that of the mediaeval architects who produced for us the religious monuments of the Middle Ages. Men of singleness of purpose without worldly ambition, they gave little thought to the non-religious phases of Colonial life. It was to their churches alone that they directed their attention in supplying everything possible to enhance their value in art, architecture and decoration. Their living quarters were plain and bare, expressing the life of their occupants. In spite of the simplicity of design and the difficulties encountered their architecture shows sincerity of purpose and reflects pleasing characteristic features of the Italian and Spanish Renaissance—simple wall surfaces with the play of light and shade and the perspective effect of cloister arches. These are difficult for us to interpret in modern construction but their aesthetic character can successfully influence our work if we do not attempt to copy too rigidly.

The architecture of the Northwest Coast, lacking as it does the direct influence of any traditional style, is compelled to seek a wider field for its inspiration. There is one, and one only, historic example in this Northwest territory akin to the Colonial of the Atlantic Coast, transmitted to us in much the same manner and not ill suited to its location in the primeval forest. This is the building of the territorial University of Washington, built in 1861, its date emphasizing the newness of our history. A native Northwest historian thus described it: "It was an imposing structure, sitting proudly upon one of Seattle's hills, where it continued one of the city's chief architectural glories for more than thirty years. Artists and experts always praised the structure as a remarkably proportioned, clean cut example of the Grecian style." The builder, like the builder of some of the best examples of Eastern Colonial, was an humble carpenter. This was his only masterpiece and unfortunately the only example of its kind in the West.

The building of the native and the pioneer providing so little of architectural interest we may next look to those neighboring countries with which our Pacific Northwest is associated. Alaska to the north and the Orient across the seas at once suggest themselves. Alaska is a land of the future. Its present is the civilization of the frontier. Its past is in the hands of the savage Indians with the slight impress of the Russian domination. The Alaska Indian was probably the most prolific artist of his race and in his interpretation of the lineage of his fathers in the totem pole he has given us an enthographic curiosity but not an architectural precedent. Russia never exerted any real influence on architectural style. The familiar Greek church

built by the Russians of Sitka is a landmark of Alaska. It gives color and interest to the country as does the totem pole, but it can have no influence on our architecture. Looking towards the Orient, Japan has special claims to our attention in its architecture as in other phases of its wonderful civilization. In seeking to assimilate it as with any other expression of its life we are met with its antagonism of ideals and methods. The Oriental life is communal; ours is individual. We do well to admire and get inspiration from the beautiful examples of the Japanese art, but our temperamental differences stand in the way of direct application. The architecture of China and Japan undoubtedly had a common origin with other old world styles, but it has developed by itself and now in its declining years is being abandoned to give place to the architecture of the Western world with other phases of our Western civilization.

Since history has done so little to aid or confuse us in our architectural design it is clearly the part of wisdom to study for ourselves the characteristics of our people, climate and natural surroundings to see how they affect locally their architectural expression. Then with our own conditions clearly in mind see what is available for use in the varying requirements of the Pacific Coast communities.

California has well adapted the inspiration of her mission in domestic work, in churches, and to some extent in semi-public buildings. The architect of California should not be content with the crude material furnished by the mission builder but should revert again to his source of inspiration, the Renaissance of Italy and Spain, with its wealth of material worthy of our study and application as devotedly as it was applied by our Spanish predecessors. As we journey to the North we find a new climate, new characteristics of life, new surroundings. Obviously these must meet with a different expression, and we can find more fitting examples to guide us in the more northern countries of Europe, whose climatic conditions and resulting differences in life of the people are more in harmony.

England, Northern France and parts of Germany have a similar geographic position to our Northwest country. They all have a similarity of climate and have much in their architecture that we could successfully apply. England, our mother country, has transmitted to us much that has given us precedent in political and social life; its architecture is a fruitful field of study that has not thus far adequately received our attention. The timber and plaster buildings that so well express the domestic life of England and fit its natural surroundings, if thoroughly studied and intelligently adapted, would give an equal charm to our Northwest shores, where climate and topography are much the same as in the mother country. Our attempts at this half timber work show our neglect, so lacking are they in the spirit of the original. So with the Renaissance in our more pretentious buildings, whether it be the English Georgian or other phases of the northern quality, if devotedly studied and studiously applied it should give us a language to express the character of the North Pacific Coast.

What we need, then, is to attain our precedent from a careful and thorough study of the architecture successfully expressing in the past the characteristics of the people, climate and natural surroundings akin to our own, then with due regard to the true principles of the design, whether impressed upon us by the training of the academic school or not, express ourselves in the rich vocabulary applied in every detail to the requirements of our peculiar life. Will not this give us the true benefit of historic precedent without the confusion brought about by a multiplicity of styles which has been found to hinder our true architectural development?

## Bungling the Bungalow—An Eastern Criticism

THE bungalow appears to be the purple cow of architecture. Very few New York architects seem to have built one, and they would all rather see than build one.

"I don't know what I should do if I were asked to build a bungalow," a New York architect said to the Sun reporter, "but I now have no very definite idea of what such a building is. I know that the word comes from India and means a small house, usually with a thatched or tiled roof. But the original significance of the word is slight nowadays for us. I at one time supposed that a bungalow had only one story, but I soon saw pictures of them with two stories. I supposed it was a low building stretching over the earth, but I later saw bungalows that looked like a Swiss chalet. Then I supposed they were made of wood, but I now hear that they are as a matter of fact built in all materials, from stone to brick. In fact, many of the so-called bungalows that I have seen seem to be, at the remotest, first cousins to an ordinary cottage. Perhaps a one-story cottage with its dominating dimensions, length and breadth rather than height, is what a bungalow has come to mean." Continuing the Sun says:

There are much more definite descriptions, however, of a bungalow than this architect admitted. Probably the fact that the bungalow was first built in the West, and in Southern California has been produced in its best estate, has led Eastern architects to be a little snobbish about it. They like to remain ignorant of something which, if not created, was at least brought to its highest expression of architectural style by their colleagues in the West. One definition of a bungalow that comes from this quarter is that the difference between the inside and outside of such a house must be reduced to a minimum. It will be seen, however, that this description applies more properly to bungalows built in a climate very different from our own.

As a matter of fact, the bungalow seems to be any kind of small, inexpensive villa, most frequently of wood, in which the architect makes a deliberate attempt at picturesqueness rather than rigidity of outline that used to be characteristic of inexpensive houses.

Undoubtedly the houses built in India and other tropical countries for the use of foreigners who went there and built these modest structures to house them during their temporary stay were prototypes of our suburban villa today that we call by the same name. Our bungalows since they migrated eastward from California have acquired characteristics which the houses they are modeled on could never have possessed. It was all very well for the builders of California bungalows to keep in mind the characteristics of these habitations, as they were built for warm climates. The plentiful supply of shade, the necessary arrangement for the abundance of air and the imperative cheapness in construction could well be kept in mind. Apartments large but few in number, many doors and windows, the rather casual arrangement of all domestic details were almost as appropriate to the California home as they were to those put up in India, but they would never do in New York or any of the regions in which the bungalow is regarded as anything more than a home for hot weather.

The California bungalows, the pictures show, are strong in the suggestion of Japanese origin. That characteristic scarcely exists at all in the bungalows built on Long Island or anywhere about New York unless it is found in the height of the buildings and the lines of their predominating dimension. It might, of course, be easy to say that if the bungalow requires

adaptation to our needs it is necessarily out of place in such a climate. There never was a time, however, when any convenience in architecture was willingly abandoned by people because it was not artistically appropriate. That the bungalow has come to stay as a popular form of summer residence nobody doubts. It seems just as certain that it will be used for winter residence also to the same degree that it is in California.

The great advantage of the bungalow is its cheapness and the certain element of picturesqueness that most of them possess. While it is of no importance in our climate except in summer months that a bungalow should impart to its occupants the feeling that they are living out of doors, there is an undeniable lack of formality about residence in this form of house. While a brick bungalow would not seem to purists in style a very congruous structure, yet it would have an element of novelty and interest that a brick cottage probably costing not more than the bungalow did could never possess.

Then the bungalow is just as unpretentious as the cottage, although it is much more tasteful and indicates more cultivation in its occupant than a cottage ever would. It seems to be an element of every bungalow that it should never count very strongly on the landscape. In California these houses with their long low roofs and their deep piazzas seem to cling to the earth. They are as much a part of it in nearly every case as they are of the trees which surround them. Such effects are, of course, more strongly supplied when the material of the bungalow is native. Since native woods are chiefly used for building the California bungalows, they have this element of artistic merit over those of the East, in which all kinds of materials are used.

It is undoubtedly true that the bungalow type has not yet reached the consideration it deserves and the commission for designing these buildings is so slight that architects of established position in the East do not care to trouble themselves about them. Some of the pictures show, however, how successfully these houses have been adapted to their sites, even in this neighborhood. They have proved to be a very appropriate crown for a seaside bluff, or they cluster gracefully on the top of a small hill. In such sites it is only necessary that the general lines of the bungalow type should be followed. Of course, a wooden bungalow seems much more appropriate for this region, just as brick might be regarded as the proper material for similar use in Pennsylvania and parts of Maryland.

But the bungalow is an imported style from which only the essential features can be drawn to suit actual American needs. So it is doubtful if the purist can find any grounds for criticism when details are left to the skill of the architect or the taste of the client. It is quite conceivable that a rough stone bungalow might fill the needs of this climate so long as it kept to the main suggestions that the bungalow has imported to American architecture. In these California houses it is customary to cover the walls and sometimes the roof with flowering roses or other plants suitable to the purpose, in order to make them seem as much as possible a feature of the atmosphere. It is inconceivable that a bungalow for this reason should require such treatment.

The bungalow therefore has come to mean for dwellers in this section of the United States the unpretentious substitute for the cottage. It is not expensive enough to reveal any very fine architectural treatment, but it can be made charmingly appropriate to its surroundings. It is convenient. In the majority of cases there are few steps to climb, and the arrangement of its rooms generally possess a compactness and conveniences, combined with a certain degree of formality that older houses never possess.

## Use of Brick in American Architecture

CONSIDERED from the point of view of beauty, brick would seem to occupy a unique position among the structural materials available for the creation of beautiful buildings. Further analysis discloses, among others, the following interesting points:

Brick is made in reasonably small units, so that in the case of many modern buildings, at least one hundred thousand of them show on the exterior. This, together with the varying shapes and sizes now obtainable, make possible an almost infinite variety of form and pattern, thus giving full scope to the imagination, ingenuity and skill both of the designer and of the workman.

Brick, moreover, is now made in almost every conceivable color and shade the permanency of which is unequaled by hardly any other building material; with such a "palette," therefore, at one's command, and by a skillful use of color, the brickbuilder of today can readily add to his design that living touch which the painter gives us in his painting.

Brick may also be counted unique in the fact that it requires for its structural efficiency the use of a very considerable amount of material of quite another kind and color, namely, mortar, and further that this material must of necessity show in the form of a joint to a more or less degree in the face of the finished wall. A mistaken idea has prevailed that the mortar joint is a blemish that should be suppressed as far as possible, or be colored to match the brick. We find, however, that the designer of today seizes the very opportunity afforded by a mortar joint to introduce into his wall another element of color and pattern.

The word "texture" has lately come into use in connection with brickwork, and, strange as it may seem, this word has a very plausible application; for the builder of interesting brickwork has much in common with the weaver at the loom as far as resulting color effect goes. Just as the weaver, with his threads of varying sizes and colors, produces a never-ending variety of useful and beautiful fabrics, just so it is possible for the brick-builder, with his bricks and joints of many colors and sizes, to weave new ideas and combinations into his work, all in beautiful and imperishable patterns; and this applies to all brick.

Just as the fabric charms and delights the eye and at the same time protects man from heat and cold, and performs a thousand other useful functions, so the beautiful wall of brick, exemplifying man's ingenuity and his artistic skill, forms also the protective structure of the buildings erected for his use. Brick, therefore, would seem to fulfill to a very high degree the requirements of an ideal architectural material.—"Donn Barber."

* * *

## Waterproofing Concrete Floors

CONCRETE floors should never be treated or dressed until they are thoroughly dry and well seasoned, and the dressing should be applied before they have been subjected to traffic or wear. In some instances it is necessary to use an acid wash or some other neutralizing medium before applying any dressing to concrete floors.

When the concrete is thoroughly dry and seasoned, two coats of concrete floor dressing should be applied. Making a cement mortar veneer of one-half inch thickness, and applying two coats liquid cement upon the surface, after the same is thoroughly dry, produces a sanitary and light radiating basement.

Concrete floors having exceedingly fine, close texture, floated to a dense surface, which carry at times a semi-gloss finish, should be treated as follows: The surface should be gone over lightly with a carborundum rubbing brick in order to establish a bonding surface that will enable the concrete floor dressing to knit close to the floor structure and practically become integral with it. This will prevent scalping and peeling of the floor dressing. The floors should, of course, be cleaned, thoroughly dry, and well seasoned before the first or priming coat of concrete floor dressing is applied. Transparent floor dressing of any color desired may be used. It should be applied by means of a suitable brush, preferably a flat 5- or 6-inch white bristle brush. The dressing should be worked well into the pores of the concrete, spreading it well over the floor surface to develop a thin film. The temperature conditions during the periods of application and drying should not be under 70 degrees Fahrenheit to insure the best results. The second coat should not be applied until the first or priming coat is thoroughly dried, which under proper temperature conditions requires from two to three days. The second coat should be brushed out evenly and uniformly over the surface in the same manner as one would apply a finishing coat of floor varnish, and it should be given from four to six days for thorough hardening. Two coats develop a very satisfactory result, though three coats should be used where floors are submitted to unusual wear, such as floors that are used as passages, aisles, and runways, over which heavy trucking is done.

Concrete floors of exceedingly coarse texture should be cleaned, thoroughly dry and well seasoned before the first or priming coat of floor dressing is applied. Either the transparent floor dressing or any color desired may be used, and should be applied by means of a suitable brush, such as is described for its use on concrete floors of fine texture. The dressing should be worked well into the pores of the concrete in order to bond and bind it thoroughly. The temperature conditions during periods of application and drying should not be under 70 degrees Fahrenheit to insure the best results. After the first coat is thoroughly dry all surface areas or spots which may show unusual absorption or penetration or floor dressing should be "touched up" or gone over with an additional coat of dressing, in order to prepare a uniform surface for the finish coat. After the first coat is thoroughly dry, the finishing coat should be applied, brushing same out evenly and uniformly over the surface, as described in the specification for concrete floors of fine texture. The finishing coat should be allowed to harden from four to six days.

Concrete floors of irregular texture—by which expression is meant those floors which are made up of extremely fine and extremely coarse texture, laid irregularly, which is sometimes due to carelessness, but often due to unforseen conditions—should be given a joint application of the specifications described for concrete floors of fine texture, and concrete floors of coarse texture.

Concrete floors of normal, uniform texture should be cleaned, thoroughly dry, and well seasoned when the first or priming coat of concrete floor dressing is applied. In this instance, as well as others, the transparent floor dressing, or any other color desired may be used, and it should be applied by means of a brush, and worked well into the pores of the concrete, spreading the surplus well over the floor surface to develop a thin film.

Floors which are laid in colors, such as terra cotta, green, etc., or where inert colors are mixed throughout the cement veneer or wearing surface, after being thoroughly cleaned, dried and well seasoned, should be given two coats of transparent floor dressing, applied under the same conditions as is described for the normal or uniform texture.—American Roofer.

Garden City Bank & Trust Building, San Jose.
Binder and Schumacher, Associate Architects.

## The Work of William Binder, Architect

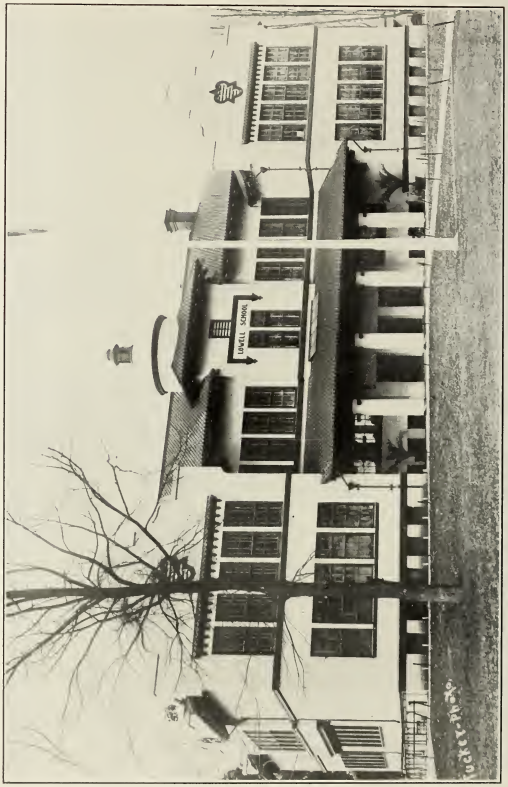
THE average loyal citizen has a certain amount of local pride and very naturally, he takes a deal of satisfaction and pleasure in the new improvements which help to make his "home town" a modern city. How much greater must be the joys of these pleasures to one who was brought up with the town if it falls to his lot to design the structures which contribute so materially to the new city.

Mr. William Binder, of San Jose, California, occupies this unique position. To say that he enjoys it is putting it mildly, for he is "chuck full" of civic pride and it is through his efforts that the architectural development in San Jose and vicinity has been brought up to its present standard. In recognition of his work, he has been called in on several occasions as consulting architect; more recently, on such work as the Hall of Justice and the new Elk's Building.

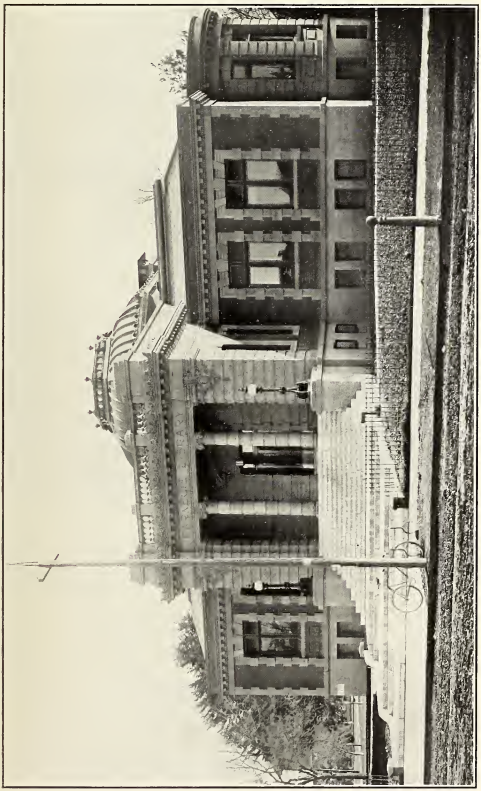
When the Conservative Realty Company of San Jose began to improve South First street, Mr. Binder was their advisor and it was he who persuaded them to build fireproof buildings. Reinforced concrete structures was the type adopted as it suited the local conditions ideally and in the long run is the most economical. While he is very familiar with construction details, Mr. Binder always employs a consulting engineer to design his structural work, realizing that a man specializing in this line can secure greatest economy. consistent with good construction. The Douglas Apartments, the Market and the New Russ House were the first of the group built in this district and on account of their success, a series of reinforced concrete stores and lofts were built and also the new Montgomery Hotel. This modern fireproof Hostelry has been a success from the very beginning and the same company is planning to build another much larger one.

Mr. Binder does not confine himself to commercial buildings but has designed and built some very excellent schools, fraternity houses, libraries, bank buildings, theatres and residences. At present he has under construction the large San Jose Y. M. C. A. Building, Twohy Apartments, Pleasanton Bank, Gilroy Theatre and a number of minor jobs. In his office at the present time he is preparing plans for a new San Jose Theatre of 1700 seating capacity and a splendid bath house for Alum Rock Park. All of these buildings are to be of the reinforced concrete type with brick and terra cotta for trimmings.

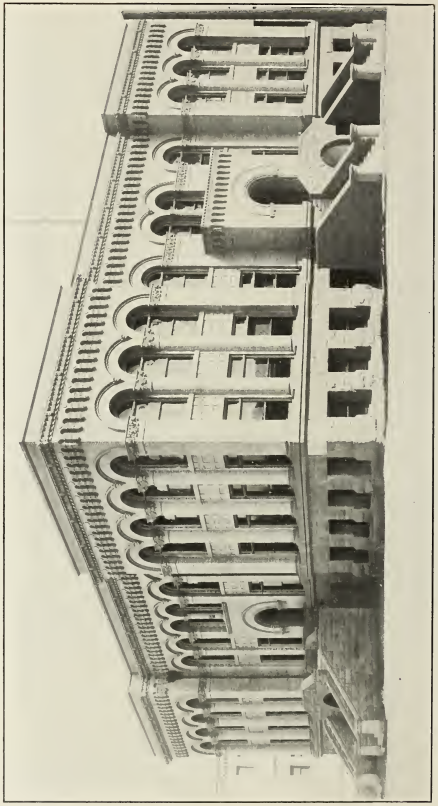
Mr. Binder is a member of San Francisco Chapter, American Institute of Architects.




*Lowell Grammar School Building, San Jose* — *William Binder, Architect*



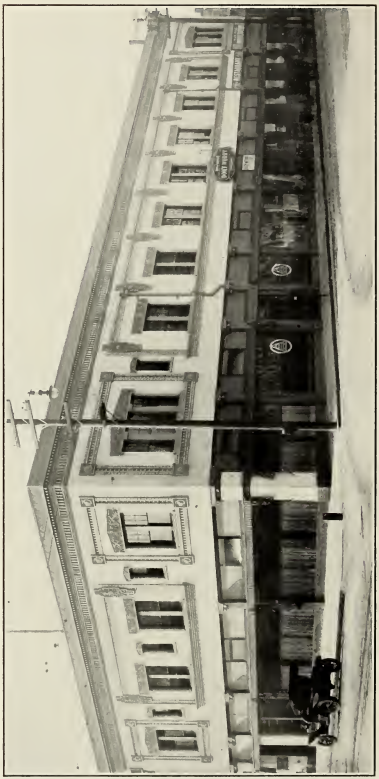
*Carnegie Library Building, San Jose* *William Binder, Architect*



*Hall of Records, San Jose.* *William Binder, Associate Architect*

*Bank of Milpitas* *William Binder, Architect*

*Fraternity House, Stanford University* *William Binder, Architect*



Stores and Apartments, San Jose. William Binder, Architect

*Y. M. C. A. Building, San Jose* *William Binder, Architect*

*Robinson-Binder Building, San Jose* *William Binder, Architect*

*Central Market, San Jose* *William Binder, Architect*

*Home of Truth, San Jose* *William Binder, Architect*

*New Russ Hotel, San Jose* *William Binder, Architect*

*Douglass Apartments, San Jose* *William Binder, Architect*

*Jose Theatre, San Jose* *William Binder, Architect*

*Santa Clara High School Building* *William Binder, Architect*

*The Smith Residence in Naglee Park, San Jose* *William Binder, Architect*

*Design for Plaster Bungalow, San Jose* *William Binder, Architect*

*Lotta Residence, San Jose* *William Binder, Architect*

*Usher Residence, San Jose* *William Binder, Architect*

## Repairing Concrete Surfaces

AT the recent annual meeting of the American Railway Engineering Association, in Chicago, the Committee on Masonry reported as follows on the subject of repairing surfaces:

In all cases the surface to be repaired must first be thoroughly cleaned of all loose material, laitance and dust and the clean, rough, sound concrete exposed to receive the patch. Probably the best method of cleaning is by means of a steam jet.

After cleaning, the surface to be repaired must be thoroughly saturated with water, not simply moistened, but so thoroughly drenched that the old concrete will not absorb water from the new mortar or concrete used in patching. If possible, the surface should be kept covered with water for several hours.

If the repair of patch is to be made on a vertical or sloping surface and is not to be more than 1½ inches thick, the surface of the old concrete, while it is still wet, should be spattered or splashed with a cement grout, following this immediately with a fairly stiff plaster coat of mortar made of the same proportions of cement and sand as was used in the original concrete, but never richer than 1 cement to 2½ sand. This plaster coat should not be thicker than ½ inch, and each coat should be forced into the surface, but not dragged with a trowel. The surface of each coat, except the final coat, should be "scratched" to give a bond for the next coat. This plastering should preferably begin at the top and progress downward, and only enough time be allowed to permit each coat to receive its initial set before the next coat is applied. The final coat should be finished with a wooden float and only enough water used to properly finish the surface. This patch should be kept damp and protected from sun or frost till fully set up.

If the repair or patch or "finish coat" is to be made on a horizontal or nearly horizontal surface, the surface of the old concrete should be slushed and broomed with a thin cement grout, following this immediately with a wet mortar made of 1 part cement and 2½ parts sand or granite screenings and of the full thickness required (not less than ½ inch thick, however). When this mortar begins to take its initial set, it should be floated or troweled to such a finish as may be desired.

If the repair or patch is to be made on a vertical or sloping face and is to be more than 1½ inches thick, it will be advisable to imbed dowels into the old concrete, as deeply as the thickness of the proposed patch, and spaced sufficiently close together to firmly anchor the patch to the old concrete. The dowels must be wedged into the old concrete and it will be advisable to fasten wires, metal fabric or bars to the dowels, in the case of extensive patching, as an additional safeguard. The patching may then be done with mortar without forms, or with wet concrete supported by forms, depending upon the thickness and the extent of the patch.

If the repair or patch is to be made on a horizontal or nearly horizontal face and of considerable thickness, dowels may be used, or the concrete may simply be reinforced by fabric or bars without using dowels—treating the patch as a block of masonry.

Care must be taken not to have thin edges on patches. To avoid this, it may be necessary to cut out sound concrete around a place to be patched, so as to give deep edges to the patch. If possible, the edges should be undercut.

* * *

## Before Election

Teacher: "Now, then, Johnny, can you tell me how the earth is divided?"
Johnny: "Yessum; into Republicans and Democrats."

## What is a Carload of Cement?

FOR many years it has been the custom of dealers to place their orders for carloads of cement in round numbers, such as 100, 150, 200 or 250 barrels. None of these figures, however, represents a carload. Every dealer knows that box cars are built and marked with a certain capacity. These capacities are 40,000, 50,000, 60,000, 80,000 and 100,000 pounds. There used to be a 30,000 pound car, but none of these have been built for many years, and this size no longer is an element in transportation problems. Even the 40,000 and 50,000 pound capacity cars are very scarce and rapidly disappearing. The maximum load which can be placed in any car is ten per cent in excess of its marked capacity.

It is a well recognized fact that the railroads in the United States for the last three years have purchased only such cars as necessity compelled them to buy. Furthermore, many of them have permitted their rolling stock to reach a bad state of repair and have done but little to restore it to usefulness. The result is an actual deficit in this country of several hundred thousand box cars in the number required properly to handle the country's freight.

The duty, therefore, of extracting from every car its maximum service is apparent to all. The railroads quite reasonably dislike to have their cars loaded below capacity, because this reduces pro rata the efficiency of the available rolling stock. In other words, if a car which will hold 280 barrels of cement is loaded with 150 barrels there remains 130 barrels of wasted room in the car, and to waste room in box cars today is little short of criminal. For the information of our dealers, therefore, says the Universal Portland Cement Company in a recent bulletin, we publish the following table of carloads of cement:

| Marked Capacity of Car. | Maximum Load. |
|---|---|
| 40,000 lbs. | 115 bbls. |
| 50,000 lbs. | 140 bbls. |
| 60,000 lbs. | 170 bbls. |
| 80,000 lbs. | 230 bbls. |
| 100,000 lbs. | 280 bbls. |

Railroad tariffs in different territories provide different minimum weights for carload shipments of cement, ranging from 38,000 to 50,000 pounds and in the case of certain short hauls, the minimum is 60,000 pounds.

If the dealers will bear these figures in mind when ordering cement and will specify quantities corresponding with the above specified maximum loads and, of course, subject to the minimum weight restrictions applying in their respective territories, it will materially assist the railroads and the manufacturerers, and greatly facilitate the movement of freight.

Every car that is loaded to less than capacity imposes upon some other car an undue burden. An accumulation of such burdens means that from 50 to 100 per cent more cars are required to do a given amount of work than would be necessary if all the cars were loaded to the limit of their carrying capacity.

Further than this, everyone owes it as a duty to the public at large to assist in conserving the existing car supply to the greatest extent possible.

The following paragraphs will make clear how maximum service can be obtained from the available car supply:

"One car, any size." This is the way we would like to have an order read when it is immaterial to the dealer whether he gets a car of the minimum

weight prescribed in the railroad tariff, or the largest car which may be available, loaded 10 per cent in excess of its marked capacity.

"One car not to exceed 170 barrels." This is the way an order should read when a car ranging from minimum to 170 barrels is what is wanted. In this case we can use a 40,000, 50,000, or 60,000 pound car, which ever is easiest obtainable, and load it to the maximum.

"One car, 170 to 280 barrels." An order reading in this way will enable us to use either a 60,000, 80,000, or 100,000 pound capacity car.

It is impossible to overestimate the importance of this matter, and until the railroads equip themselves with sufficient rolling stock to perform the work they are called upon to do, no dealer should order cement in other units than the above mentioned carload lots. Our dealers are urged to give this matter careful study and to properly instruct their employes who may have to do with placing shipping instructions.—Cement Era.

* * *

## Original Plan for Housing

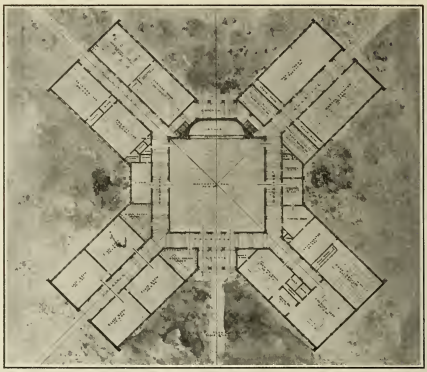
Prof. Pierre Roveda, an architect of Buenos Aires, has devised a special plan for the construction of whole districts of houses for the working classes. Instead of employing the usual square block as a unit, Prof. Roveda adopts a circle varying in diameter from 100 to 130 yards. This circle of ground is subdivided into 99 radial lots converging to a center. The circle is concentrically divided to form an interior avenue four yards broad, to permit of communication with the center of the circle. Each avenue leads to external sidewalks and to longitudinal and transverse streets. In the center of the circle is a plot of 40 yards in diameter, where children may be left to themselves without their parents' care, in charge of a specially designated person. In this garden a playroom, a school, a hospital, a fire station, and an administration room are to be found. Naturally this circular plot of ground will leave four corners free. In each of these corners Prof. Roveda intends to erect four chalets, such as grocery shops, dairies, haberdasheries, and the like, which are to be conducted on a co-operative plan. In each of the 99 radial plots a workingmans' house is to be built on the English plan. It is argued that the circular arrangement will give continuous sunshine at all hours of the day and plenty of light and air.

* * *

## Price of Building Materials

Regardless of the fact that an immense amount of new building projects are being considered the price of building material has not advanced. This is particularly so in the case of building brick, and prospective builders may consider themselves extremely fortunate that such is the case. There is no denying the fact that common building brick are being sold cheaper at the kilns and on the cars in Los Angeles than in any other large city in the United States. This condition has been brought about by the fierce competition that has existed for several years between the several large brick manufacturers for the control of business and has caused several yards to go out of business.

The fact remains, however, that there is an increasing demand for building material of better and more fire-resisting qualities. The changes in the building ordinances, of which the requirements of up-to-date buildings have brought about, are making it necessary to specify none but the best material for the purpose. That the manufacturers of clay products are alive to the situation is apparent.



*Ground Floor Plan, Dinuba School* *Walter Parker, Architect*

## Unique Design for a High School Building

THE new high school building about to be erected for the City of Dinuba, California, is of radically different design from the customary and time honored arrangement of floor plan. This building, designed by Walter Parker, contains all of the requisite rooms needed in this particular instance at the present time and also adapts itself readily to future additions in almost any desired direction, and with more or less satisfactory architectural results.

As may be readily seen from the plan, the building radiates around a central assembly hall which is well lighted on all sides from the clear story extending above the roof of the surrounding wings, and by reason of such location, long runs of corridor space is reduced to a satisfactory minimum.

The lot, almost a tiny block in area, being perfectly level, it is not necessary to confine the plan to a more compact arrangement, and a one-story structure spreading over considerable area being desirable, especially for a non-fireproof building.

The arrangement of floor plan does not conflict with the many requirements more or less imperative in the design of school structures and does, to a certain extent, take advantage of many of the desirable features obtainable only where circumstances and conditions are fortunate enough to permit a frank expression of a reasonable plan.

There is possibly a future for the "spider plan," for educational buildings where large areas for sites may be obtained for comparatively small investments, and for buildings that do not extend above the ground floor.

*Elevation Dinuba School* *Walter Parker, Architect*

## Pleasant Words for Mr. Taylor

Supervising Architect James Knox Taylor, to whose brilliant management of this difficult office, the Treasury Department of the United States owes a series of public buildings fittingly symbolic of the best ideals of American architecture and who recently resigned to take up private practice, has succeeded in administering the affairs of his office in accordance with the code of ethics laid down by the American Institute, in complete sympathy with the highest ideals of architectural practice and with the most notable freedom from every taint of scandal, friction or favoritism. His tenure of office has reflected credit upon American architecture as well as upon the architect as a working unit for the artistic uplift of his community.—Builders' Guide, Philadelphia.

* * *

## Radiators of Concrete

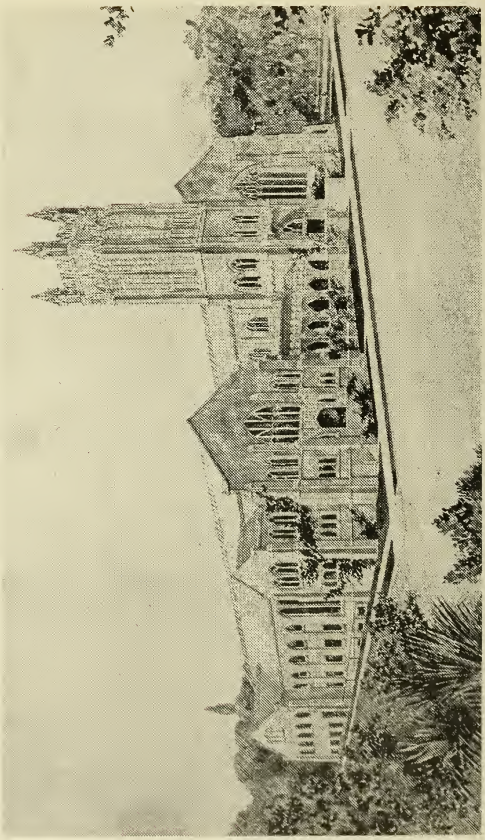
A radiator for steam or hot water constructed of concrete instead of cast iron or steel piping is a surprise, to say the least.

We find, says Cement Age, that it costs less, and moreover produces a better, more livable atmosphere. Once more we find an example of wonderful and unexpected development in the uses of concrete. Concrete radiators are apparently successfully established in Germany, and steps are being taken to introduce them here. Refrigerators and radiators, the extremes of household equipment, can both use concrete to good advantage. Truly concrete is the material universal.

* * *

## Australian Capital Competition

The competition for the Australian Federal Capital has been decided, and, according to press despatches, the successful competitor is Mr. Walter Burley Griffin, of Chicago. Quite naturally the success of an American architect in a competition that was open to the profession generally will be regarded by architects in this country with much satisfaction, although the honor would have been greater had the competition been conducted along lines generally approved by architectural organizations of the United States.



*Accepted Design for Methodist Church, San Diego, California* *Robert H. Orr, Architect*

## What Advertisements Mean to the Contractor

ADVERTISEMENTS may be grouped into three classes: first, publicity cards; second, reading advertisements that tell of products; and third, educational advertisements. The first is not of great value, except to the advertiser, and then only when some purchaser is sending to a number of dealers or manufacturers for catalogues or prices. Such an advertisement consists only of the name and address of the seller and the article or articles for sale. Inquiries or sales from such advertisements are seldom numerous. Reading them does no one any good.

The second class, namely, reading advertisements, may not only educate the readers, but may be the means of saving them much money. Such an advertisement contains a lot of print telling of the products advertised, either the work they will do or how they are manufactured and kept in stock, or it may tell a story, by reproduced letters or otherwise, of the success of some users.

The third class, educational advertisements, are similar to the second, except they are given over entirely to educating the reader. It may be that at present the reader is not a possible purchaser, but with the proper education he may soon become one. Such advertisements may be devoted entirely to instructing the public concerning an article manufactured and sold exclusively by the advertiser, but may also be used to boost a product of similar grade made by a number of manufacturers. Then the advertisement may do almost as much good to other manufacturers as to the advertiser who is paying the bills. This was the case a few years ago, when one of the leading cement companies spent thousands of dollars in educating the general public in the use of cement. This was some benefit to all the cement companies, but gave the one which paid the bills some prestige over the other companies.

All reading advertisements, both those referred to in the second and third classes, can be, and generally are a benefit to the reader. Advertisements, as a rule, are worded as strongly and as strikingly as the truth will permit, and for this reason they are impressive and may start new ideas and chains of thought in the mind of the reader.

An evidence of the power of publicity is the use of concrete mixers. Ten or fifteen years ago few were used. At present thousands are in use, and those that are best known and used most extensively are the most advertised ones.

The introduction of machines on contract work means the saving of thousands of dollars over hand labor to contractors. If a contractor does not read advertisements, he cannot keep himself posted concerning new machines that are placed on the market. To-day, he may not need a certain new machine, but within a year he secures a new job upon which such a machine can be used. His mind at once reverts back to the advertisements he has read. Possibly, the name of the manufacturer is impressed on his memory. He secures a catalogue or hunts up an old one, makes a purchase and reaps an added profit on his work. Knowing of such a machine, it is perhaps possible for him to underbid his competitors who are not readers of advertisements and so secure the job, when otherwise he would not have been among the low bidders. Such things have actually happened not once, but many times.

New uses for old machines are also told of in the advertising pages of the technical papers. A contractor finds that a certain machine is well adapted to some new class of work and informs the manufacturer. This information

is published in his advertisements and the readers of them reap this benefit at once instead of waiting to discover it by chance, as did the original contractor.

As descriptions of machines and their uses, so methods of work and many good ideas as to management of a business are found in advertisements. One steam shovel company has for years published advertisements illustrating methods of doing certain classes of work. Another company selling some classes of excavating and rehandling machinery has told in its advertisement much that is of value in reducing costs even to those who have never bought a thing from it, and possibly never will. A dump wagon company, in boosting its own products, has laid down many good business principles and valuable hints on buying.

Often an advertisement is meant for one purpose, yet it will start a chain of thought in the reader's mind that will lead him to thinking, so that he will originate new ideas or think out things that will be a benefit both to himself and others.—Extract from the Contractor, Chicago.

* * *

## Cracked Concrete Chimneys

SANFORD E. THOMPSON, in a report dealing with the cracked concrete stack of an English manufacturing plant, discusses conditions and some possible remedies which are of interest to those American manufacturers who are burdened with big stacks built on the unhappy principle of a dry-mixed concrete. In the case of the London chimney, the structure had been put up on the dry-mix plan that was in vogue some years ago. The lower third of the stack was of greater diameter than the upper portion, and in the region of the offset, and above it, there were many long vertical cracks. The internal temperature of the stack was pretty evenly maintained throughout the year by the usual operation of the power plant, and there was some leakage through the cracks from the outside. The main concern of the owners, however, was as to the stability of the stack.

Danger from shearing stresses was considered very remote, since such stresses would not reach a critical point until long vertical cracks had formed on opposite sides of the chimney; and even then, an adequate amount of horizontal reinforcement would prevent the disruption of the stack. Corrosion and consequent weakening of the reinforcing steel was considered the point of most danger, the probability of this being rather large in case of concrete mixed so dry that it did not make a perfect bond with the reinforcement. With wet-mixed concrete, says Mr. Thompson's report, the reinforcing steel is usually covered with a film of cement which will for a long time prevent corrosion of the steel by gases and moisture making their way in through the cracks.

As to remedies, the placing of a fire-brick lining was considered undesirable; such a lining would protect the concrete of the stack to some extent against the heat, but as good concrete easily resists a steady temperature of 600 to 700 degrees F., there was no need of a lining on this score. Moreover, it was considered that the presence of the lining might be mischievous through the new expansion strains which it might transmit to the concrete structure.

Repair by placing a shell of new concrete on the outside of the stack was considered by Mr. Thompson much the best course to follow. It is possible in building such a reinforcing shell, to shut off all access of atmos-

pheric gases and moisture to the reinforcing members of the original structure, and to use reinforcing steel in such a way as to make good the weaknesses that have developed in the original structure owing to cracks, or to a presumption of an insufficient bonding of the reinforcement due to too dry a mix.

* * *

## Cause and Prevention of Concrete Failures

It is a peculiarity of the failure of every concrete structure, where the primary fault is in the design or construction of the concrete or of its reinforcement, that a very apparent cause can soon be found, and that that cause is one which should have been apparent to anyone claiming more than an elemental knowledge of the science of building in concrete.

With a regularity almost monotonous we read of insufficient reinforcing connections, of improperly mixed concrete, of frozen material, of thin supporting struts, and of premature removal of forms, until we wonder what is the nature of men who will not learn the fundamentals of a business at which they hope to earn their living.

There does not seem to be any good reason why the concrete building business should not be conducted in the same manner as the building of steel structures. Why should not every architect be competent himself or have associated with him an engineer competent to design the concrete structure? Why should not this expert prepare the general structural drawings for the building upon which competent contractors may bid? Once the bid is awarded, taking into account both the competency of the bidder and the prices bid, the successful contractor could himself prepare the detail plans showing method of erection, minor steel details, etc., exactly as the steel companies now prepare shop drawings showing erection methods and connection details for the approval of the designing and supervising engineer of a structural steel building. This would remove the commercial element from design and would surely tend toward safer buildings. Such methods are very generally in use, and the buildings so erected are of the class which make the reputation of reinforced concrete as a building material.—From Engineering News.

* * *

## A Clayworker's Epitaph

It was a fitting tribute to the life and work of Anton Vogt, Jr., son of Anton Vogt, the well-known American kiln expert, that the monument, recently erected on his grave at Guildford College, N. C., should be of clay. The monument was in the form of a cross and was made of terra-cotta, with a white enamel finish. The inscription was especially appropriate:

"He was of clay, he worked in clay,
He died as clay and returned to clay."

* * *

## No Grammar Desired

A school teacher having instructed a pupil to purchase a grammar, the next day received a note thus worded from the child's mother: "I do not desire for Lulu shall ingage in grammar, as I prefer her ingage in yuseful studies and can learn her how to spoke and write properly myself. I have went through two grammars and I can't say as they did me no good, I prefer her ingage in German and drawing and vocal music on the piano."

*Los Angeles Athletic Club Building, Los Angeles, California*
*John Parkinson and Edwin Bergstrom, Architects*

*Ancient Greek Frieze Decoration for Fireplace* *Modeled by Ignace P. Lipp*

# Among the Architects

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Meets Third Monday Each Month.

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### Want Competition.

Architects William Mooser, Kenneth MacDonald and W. G. Mitchell appeared before the Public Buildings Committee of the San Francisco Board of Supervisors recently, and spoke in favor of holding a competition for designing the various public buildings to be erected in the San Francisco Civic Center. Several days prior to the meeting the Supervisors were requested to appoint a committee of architects from the Civic Center Commission to prepare the plans for the new auditorium, and this action aroused so much adverse feeling on the part of many of the San Francisco architects that it was decided to petition the supervisors to call for competitive plans.

### Six-Story Apartment House

Architects Welsh & Carey of San Francisco have plans for a six-story and basement high-class steel and reinforced concrete apartment house to be erected on the site of the old Grace church at California and Stockton. This will be one of the most completely equipped and elaborately furnished apartment buildings in the city, and will be a credit to the aristocratic section of the New San Francisco. Building is for Soule Dolliver, and will cost close to $100,000.

### Branch Bank Building.

Architect Herbert A. Schmidt has prepared plans for a one-story and basement class A branch bank building to be erected at Twenty-first and Mission streets, San Francisco, for the German Savings & Loan Society. Construction will be of white stone and granite, with interior of marble and tile and mahogany finish.

### Architects Curlett & Son Busy.

One of the busiest firms of architects in San Francisco at the present time is William Curlett & Son, who have more than two million dollars' worth of work under way. This includes a one-million-dollar bank and office building for Los Angeles, a $200,000 annex to the Hotel Argonaut, $100,000 steel and brick apartment house for James McElroy and a 300-room hotel for R. D. McElroy.

### Seven-Story Hotel.

Architects Righetti & Headman are completing the working drawings for a seven-story and basement steel and concrete hotel to be erected at Ellis and Larkin streets, San Francisco, for J. Allee at a cost of $85,000. There will be five large stores on the ground floor and sixteen rooms on the six upper floors.

### Exposition to Pay Architect's Fees

The Directors of the 1915 Universal Exposition have called upon the supervisors of San Francisco to designate its advisory board of architects as the architects to plan an auditorium which will be in harmony with the other contemplated buildings in the Civic Center. The Exposition is to meet the expense of drafting the plans of the auditorium and the magnificent structure is to be erected under the supervision of the World's Fair. The sum of $40,000 is to be expended for the services of the designing architects. Contracts for its construction will be awarded immediately after the plans have been decided upon.

### Civic Center Site Decided Upon

The location of San Franciso's new Civic Center has been decided upon once and for all time. The supervisors have selected the best site available, namely that known as Scheme B which takes in the block bounded by Van Ness avenue, McAllister, Polk and Grove streets.

In speaking of the selection Architect John Reed, Jr., of the Civic Center Commission, said: "The action of the Board of Supervisors is in accord with the judgment of all members of the Architectural Commission, and, is in my estimation, the most logical The old City Hall site presented many difficulties in the way of construction of the new building that will not be encountered at the Van Ness avenue site. I feel pleased with the result of the action of the Supervisors and know that the other members of the Architectural Commission are also pleased."

The supervisors voted 14 for the Van Ness avenue site and four against. John Galen Howard and John Reed, Jr., appeared before the Board on behalf of the Architectural Commission to explain the stand of the commission.

### The Western Pacific Shops at Sacramento

After several months of quiet, during which some Sacramentans wondered if the Western Pacific had abandoned its plans to erect its principal shops in Sacramento, the shop site adjoining South Curtis Oaks early this month again showed signs of activity. Architect W. H. Mohr, who is in charge of the work of completing the shops, is assembling a large force of men to rush the buildings to completion.

Work is now in progress on the storehouse and office building. These structures will likely be the next ones completed.

The Western Pacific shop buildings when completed will represent an outlay of about $400,000. The modern machinery to be installed in the buildings will cost as much or more than the buildings.

### Money for California Federal Buildings

The sundry civil bill recently passed by the House in Washington, makes available the following sums for California federal buildings and construction work:

Riverside postoffice $5000; Pasadena postoffice, $5000; immigration, station Angel Island, for water barge, $3000; Grass Valley postoffice, $20,000; Alameda postoffice, $45,000; San Diego postoffice and courthouse, $10,000; Humboldt harbor and bay, $250,000; San Francisco sub-treasury building, $100,000; Yosemite National Park, $50,000; Sequoia National Park, $2000; San Pablo bay improvement of channel over Pinole shoal, $122,000; California Debris Commission, $15,000; salaries of United States fishing stations at Baird and Battle Creek, $5280; Soldiers' Home at Santa Monica, $401,000.

### Carnegie's Money is Good

San Francisco, through its Board of Supervisors, has finally announced itself as pleased to accept $750,000 of Andrew Carnegie's money for the construction of a public library. The board is willing to forego any careful scrutiny of the method by which Carnegie accumulated his millions by trust manipulation and underpaying laborers, if he will only make good his offer of 11 years ago. His wealth is not looked upon as loot, and is therefore not so tainted but what San Francisco's self-respect does not forbid it to accept the gift.

### Architect Wins Prize.

Architect Arthur S. Heineman was recently awarded the first prize and $150 for offering the best suggestions for the development of a large tract at Oakland for the Wickham-Havens Company of that city. The tract is one and one-fourth miles in length and three-fourths of a mile wide. It will contain about 3000 lots which will be devoted exclusively to bungalows. In order to secure the best ideas for the comprehensive development of the tract the company offered prizes and invited a number of architects to submit letters containing their suggestions and ideas. No plans or sketches were asked for or submitted.

### Back Numbers Wanted

The Department of Civil Engineering, University of California, would like back copies of the Architect and Engineer for binding as follows: Vol. 19, No. 2, Dec. 1909; Vol. 21, No. 1, May 1910; Vol. 25, No. 1, May 1911. Prof. Derlith writes: "If you can furnish us with these missing numbers so that our files may be complete for binding, we shall greatly appreciate it and will remit by check upon receipt of the numbers and your bill.

### Honor For Retired San Francisco Architect.

John C. Cebrian of 1801 Octavia street, retired capitalist and formerly well known as a civil engineer and architect of San Francisco, has just been knighted by King Alfonso XIII of Spain for distinguished services and achievements in art, architecture and literature.

Cebrian was named knight commander of the Order of King Alfonso XIII, the last week received the decoration of that order, which is one of the highest given by the Spanish court. The decoration consists of a cross showing an eagle with outstretched wings flying before the rising sun and is surmounted with the arms of Spain and the crown of Alfonso XIII.

Cebrian was a native of Spain, but has spent most of his life in San Francisco. He won early recognition for his work, and during the last few years has gained particular distinction for his valuable gifts of books on art and architecture to the University of California and to the library of the School of Art and Architecture in Madrid.

### Portland Architects.

About fifty members attended the recent annual meeting of the Portland Architectural Club at the Bowers hotel. An amendment to the constitution was adopted which puts all of the business under the board of governors, who make a report once a year to the club. The monthly meetings in future will be of a social nature under the management of the entertainment committee. The following officers were elected:

Frank Logan, of the firm of Larzarus & Logan, 1000 Chamber of Commerce building, president; John M. Hatton, with Doyle, Patterson & Beach, Worcester building, vice-president; William P. Dawson, with Emil Schacht & Son, Commonwealth building, treasurer; and William H. Flanigan, with Whitehouse & Fouilhoux, Wilcox building, secretary.

After the banquet and election of officers, the members repaired to their rooms at 247½ Stark street, where a temporary stage had been put in, and an amateur entertainment was enjoyed.

### Personal

Architect William H. Weeks announces the removal of his office from 251 Kearny street, San Francisco, to 75-77 Post street, near Kearny. Mr. Weeks has a long lease of the entire top floor which has been especially fitted up for his constantly growing clientele.

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By F. W. FITZPATRICK

**THE "TARNSEY" ACT**

In some quarters there is heard a wail because Congress plans the abolishing of the "Tarsney" Act, that legislation whereby the biggest Government buildings have been given out to private architects via the competition route. That those of the inner circle who have generally secured the plums should wail is understandable but that the profession generally should protest simply goes to show how abjectly the rank and file follow the lead and uphold the interests of the aforesaid "inner circle." The profession at large has not been benefited by the Tarsney Act nor has it been of advantage to the government and therefore to the people generally.

The proposed repeal is in the Sundry Civil Bill so is more than apt to pass whether the Institute protests or not. That protest, as far as the rank and file are concerned is perfunctory and simply because the Act originated in the Institute. A case of upholding a thing because one suggested it and utterly regardless of whether it did good or harm, what is called a "blind partisan support."

I think I am perfectly safe in saying that the legislation has done no good. The buildings carried on by private architects have been no better than the regular Government product, have been the cause of endless rows and trouble and have cost more to produce than those done in the usual way. I have followed the Tarsney Act products rather carefully, have had much to do with some and believe that I am competent to affirm that that legislative effort is a good one—to repeal.

The private architect has to get his information from the Supervising Architect in order to plan the building. The latter office, in the natural course of things, must have forgotten more about the needs of a Government building than the private practitioner can learn in a lifetime. Then the supervision of the work is done

by the regular Government force anyway; so are the accounts kept by it. It all means endless duplication of work by department and private practitioner. Really the only thing the latter rules supremely is the artistic part, the exterior design and the interior finish. And I fail to find a solitary instance where the private architect has produced a handsomer, a more artistic structure than those designed by the Supervising Architect's office.

The Tarsney Act was passed because the Government work had been so abominably ugly and because of the endless scandals and crookedness that had existed in handling it. But contemporaneous legislation and new appointments cleaned up that office and so effectually that for a long time now it has been known that the Tarsney Act was simply a means of giving good fat commissions and extra renown to a few select architects and not the remedial legislation it was originally planned to be.

A much better scheme would seem to be "collaboration" rather than these so-called "Tarsney Competitions." Let the Supervising Architect's office design and carry on and build the Government buildings. It is the best equipped and most capable office in the land for that function anyway. Then appoint and pay a "Collaborating Commission" of private architects to work with the Supervising Architect to secure the best and most artistic structure possible. That is in the big cities only, of course, buildings of $300,000 or over. Let it be a local Commission, three or four of the best local architects, men of ability, men elected for that work by their fellows or local Chapter of the A. I. A.

Such a Board of Commissioners will have local pride enough to really exercise its privileges of criticism and suggestion and see to it that that building will be one worth while; the knowledge that there is to be such a Board that will go over its work will keep the Supervising Architect's office always keyed-up to its best, and the combination of the two bodies, really collaborating and working together, cannot fail but produce infinitely better results than that achieved by an individual who has merely happened to hit the fancy of the best talker of the judges who preside in the more or less farcical competition performance.

The Government competition is pretty sure to be a dead letter ere this is in print and I would most earnestly advise the architects to clamor for "COLLABORATION" as a new plank in their platform. A trial is the least that could be done. If they want it let them get busy and approve of the scheme to their legislators and representatives to whom it will already have been suggested.

### The Old Man.

Who says that this is the age of the young man? It is the noisy young fellow who perhaps is making a spectacular flight. Very little thought will show that spectacular flights do not as a rule have pleasant endings. Give us the man who matures not too quickly and learns to work patiently in harness with others. There are thousands of them, all the way from fifty to ninety years old—you meet them everywhere—who are getting such results out of life that they are quite content to let others make a noise and attract the passing attention.

In this connection we were pleased the other day to read the following by a leader in Chicago business life:

"Among the men I hire nine out of ten are better workers at 45 years of age than are the men of 25 or 30."

This man believes that the man of 45 or thereabouts is at the prime of life, physically and mentally. He also holds that men of mature years are more reliable and less apt to become restless after a year or two in a position and to seek new fields. The average young man, he says, is seeking a "soft snap," and is not the sort of employe who will stick by his employer through thick and thin until his services become highly valuable, and, in many cases, indispensable.

### Want to Know About Concrete?

The Architect and Engineer, of California, has opened a new department for young draughtsmen. The purpose is to have them send in inquiries concerning the problems they may encounter. In the first issue containing the department, fifteen questions were presented, and it is significant to note that six of them related to cement and concrete construction. In other words, nearly half of the queries were confined to the use of a single material—cement.—Cement Age.

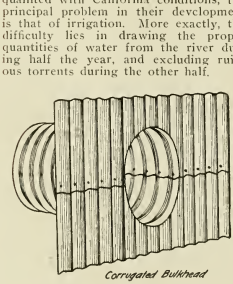
# State, County and Municipal Engineering

Good Roads—Water—Sewers —Bridges—Fire Protection

### Irrigation and Protection of Reclaimed Lands

By Ray L. Anderson

SENATOR Ingalls said that the bed of the Platte River in Kansas "would make splendid farming land if it only could be irrigated." The reclaimed swamp lands of the Sacramento and San Joaquin Rivers are in many respects the richest agricultural areas in the world; and strangely enough, to anyone unacquainted with California conditions, the principal problem in their development is that of irrigation. More exactly, the difficulty lies in drawing the proper quantities of water from the river during half the year, and excluding ruinous torrents during the other half.



Corrugated Bulkhead

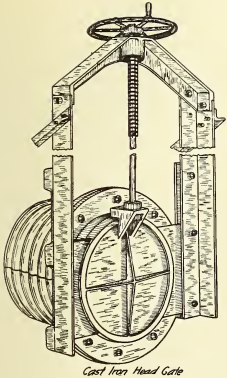
The matter seemed at first a very simple one—to let water flow from a higher level to a lower was something like the proverbial rolling off a log. But, just as Darius Green found it much easier to fly than to "light" so the Island Country ranchers have found by hard experience that a pipe or other conduit may work beautifully during the summer and fall, and be the means of starting a flood in the spring which will do a hundred times more damage than all the good it has accomplished.

The peculiar conditions of the Island Country make it somewhat difficult to select the best material for a conduit. The soil, for unknown depths, is of a peaty character, affording no adequate bed for anything of the nature of masonry. For this reason, conduits of brick, tile or concrete are found to be absolute failures, for none of these can endure the strains incident to a shifting foundation. Wood was of course one of the first things used, but the employment of so temporary a material was soon found to be the very opposite of economical. Weather conditions are decidedly unfavorable to wooden construction; and it often happened that such a waterway needed replacing after one or two seasons. When a replacement is needed in a pipe which runs through a levee the island rancher is fortunate indeed if he discovers it before the river does.

Ordinary sheet steel pipe, whether asphalt coated or galvanized, is hardly more permanent than wood. Corrosion begins almost immediately, and some of this pipe after two or three years' service is in a ruinous condition. Cast iron pipe, with shoulder-leaded joints, has also been turned to as a possible solution of the matter. Rust would of course be a long time in eating its way through such a thickness of metal, and no such immovable bed is necessary as with brick or concrete. This pipe, however, is heavy and expensive, and costly experience has shown that it must be absolutely supported at the joints. Its weight often causes it to settle in the soft levee soil, which in many cases leads to the breaking of the joint; and it does not require an engineer's education to enable one to foresee the consequences of a broken pipe joint in the middle of a levee.

Sheet steel, cast iron, wood and every other form of smooth pipe has also a common defect which is fatal for this purpose. A trickle or ooze of water may at any time make its way along the outside of the pipe, that point being the weakest in the levee. Under flood conditions this trickle may very quickly become a stream, and the stream a raging torrent. Many a conduit has been ruined and thousands of acres flooded by this cause alone.

The consideration of all these dangers arising from various forms of pipe leading through the levee has convinced



Cast Iron Head Gate

some engineers that the only advisable method of taking water from the river is that of the true siphon, carrying the water over the levee top. This certainly avoids many of the difficulties attending the straight conduits; but it is, after all, very doubtful whether it constitutes a solution. The siphon is vastly more expensive and difficult to install, and it must remain air-tight in order to be effective. Under rough and ready conditions, this last is a severe requirement. The siphons are also a serious obstruction to dredging and other operations along the river bank.

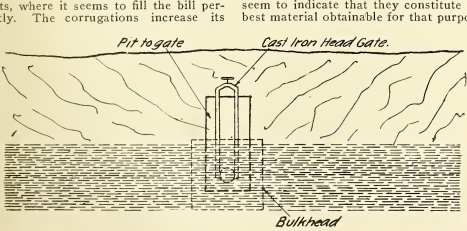
Several land owners are reporting the successful use of corrugated iron for levee pipes. This material is becoming familiar through its use for road culverts, where it seems to fill the bill perfectly. The corrugations increase its strength immensely over that of plain pipe, thus allowing the use of lighter gauges; and they also serve to grip the soil and hold the pipe firmly in its bed. The earth packs closely into these corrugations and prevents the formation of the trickle that brings disaster in its wake.

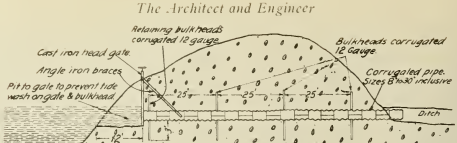
The construction of this type, in two-foot, riveted sections, is one that gives a maximum of strength, combined with elasticity. It withstands the strains resulting from a soft or shifting bed better than anything else, for there is just enough "give" in the material to provide for this. Culverts made in this way are now to be seen all over the country, replacing masonry or other rigid constructions, where the conditions are such that the latter never could be successful.

Corrosion, the great enemy of sheet metal construction, is guarded against, in the better grades of corrugated pipe, by the use of high-purity iron. It seems now to be pretty well established that the principal cause of corrosion in iron and steel is the impurity which it contains; and experience with wrought iron of the highest guaranteed purity in culverts and other exposed iron work seems to justify the conclusion that it will be more permanent than even the fine old iron of seventy-five years ago, which the scientists tell us was also a high-purity product.

The makers of this pipe have designed bulkheads or wing-walls of the same material, for a further protection of the inlet end. They have also perfected a heavy pressure gate for use in connection with the pipe which is admirably adapted for regulating the intake. It consists of a cast iron slide attached to an angle iron frame, which supports a wheel lifting device for raising or lowering the slide.

So far no failures resulting from the use of corrugated iron pipes and bulkheads in levee work have been heard of and from present indications it would seem to indicate that they constitute the best material obtainable for that purpose.




Retaining bulk heads corrugated 18 gauge
Cast iron head gate
Angle iron braces
Pit to gate to prevent tide wash on gate & bulkhead
Bulkheads corrugated 18 Gauge
Corrugated pipe. Sizes 8 to 30 inclusive
Ditch
Height of pipe to be determined by outlet end. Slope of pipe 1 in 300'

### To Treat Sewage With Electricity

An electric sewage disposal plant, the first to be established in Kansas, is to be installed at Eldorado by the engineers of the state university and the state board of health. The state board of health, which has general supervision of the sewage disposal in Kansas, is going to make a complete test of the new plan of removing all contamination from sewage, and if the experiment is successful similar plants will be required wherever it is necessary to prevent the danger of spreading disease to other towns. Prof. W. C. Hoad of the state university, state sanitary and water engineer, describes it as follows: "The sewage passes through a trough just large enough to carry the materials, but small enough to make it run very slowly. Set in the trough are eight or ten sets of electrodes, and the sewage circulates around these. The electricity is turned into the electrodes at about three volts, but carrying about three hundred amperes. This large volume or current at low voltage disintegrates the sewage and kills practically all the organic matter and every germ. Experiments we have made just as a test show that this method of treating sewage reduces the danger of contamination to a minimum.

At Eldorado they are planning to establish a plant that will handle three hundred thousand gallons of sewage a day. The plant will cost from $700 to $800 completely installed and the cost of operation will be from 90 cents to $1 a day when running full capacity.

### Concrete Country Highways Described.

F. H. Oakes, of Chicago, assistant engineer for the Universal Portland Cement Co., Chicago, addressed the highway committee of the Minneapolis Civic and Commerce Association last week, giving a description of the concrete highways in Wayne county, Mich. According to Mr Oakes, a portion of this roadway is in its fourth year. The county will build forty miles of it this year. The concrete is a one, two and four mix, laid seven inches deep, 16 feet wide, in 25-foot sections. It is steel protected and has frequent expansion joints. Along each side is a three-foot strip of tamping gravel. The county spent but $200 in repairing its roads last year, and a good portion of this was for cleaning ditches and repairing a few shoulders. The surface is roughened by sweeping it with a brush or broom. The concrete is made to set under wet sand to prevent rapid drying and avoiding cracks. The concrete is laid on a six-inch sand cushion, which serves to prevent any trouble from frost heaving.

### New Pavement Proof to Autos

A press dispatch under Paris date line reads: "The broad and stately avenue de l'Alma is rapidly being put in a state of siege. Both the roadway and pavement are blocked with enormous and unsightly heaps of sand and granite rubble and piles of tar bricks and cubes, the whole forming a rampart around an enormous machine whose cylinder grinds without ceasing from mroning till night. The machine manufactures, it is said, a composition of incredible hardness—one that is able to defy the flying wheels of any traffic for ten years, while always presenting the same uniformly smooth surface. The cylinder simply crushes up granite and any other substances which it may be fed like walnuts. Finally it turns out a mixture that, combined with tar and cement is to form the pavement of the future. The municipality is on the point of signing a first contract for $5000 worth on in self-defense, but its advocates claim that, on the contrary, it owes its durability in part to its smoothness and absence of friction."

### Experiments With Marble Roads.

The village of Gouverneur, New York, is making the experiment of building its highways in crushed marble and asphalt. The foundation is laid in crushed marble well rolled. On this is poured a coat of hot asphalt and on top of that a covering of the crushed marble is placed and rolled, the asphalt acting as a binding. The entire cost of construction aggregates about $1,800 a mile. This is more than has been expended in road construction heretofore, but the marble highways will give such excellent satisfaction that the work will be continued on a larger scale than was originally contemplated.

# HEATING AND LIGHTING

## Plumbing and Electrical Work

### Economy in Household Lamps.

The layman, and quite frequently some of us who profess to know more or less about the electrical industry, frequently operate lamps not only at improper voltages, but also over a period exceeding the useful or economic life of the lamp.

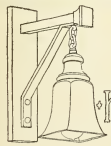
Some years have passed since it was established that a slight increase in voltage causes the lamp to burn many times its natural brightness, though to its detriment, and, again, a slight reduction in the voltage causes it to be unduly lessened in light-giving qualities. The subject, then, of installing lamps of proper voltage has been pretty thoroughly covered, and cases where improperly installed lamps are being used are comparatively few.

The burning of lamps far beyond their useful period is, however, still the ruling sin in household economy. As long as a ray of light is given out, the lamp is held to its inefficient service, even though the consumer is unwittingly paying many times the price per actual candle power delivered that would be necessary in case a new lamp were installed.

Let us for the moment look briefly into the theory of the economic use of the lamp. It is admitted at the start that the more watts used, the more the cost of energy becomes. On the other hand, if a lamp costs a certain amount of money, say 70 cents, and if it is burned 1000 hours, the cost per hour is one-half that of a lamp burning but 500 hours, consequently we see that the longer a lamp is burned the smaller the lamp cost per hour. On the other hand, the longer the lamp is burned, the greater is the cost of energy. These two costs constitute the total cost of lamp service.

If now, we can find the place at which the sum of these two factors—the one continually diminishing, the other continually increasing—becomes a minimum, we have at once the proper time at which to discard the old lamp for the new. On another page in this issue will be found the results of an investigation in lamp economy. There will be found a graphical representation of the two curves above alluded to and, also, a third curve, entitled total cost of watts per candle. The point at which this curve approaches nearest to the horizontal line is evidently the smallest cost in watts per candle, hence the point of greatest economy.

The inefficient use of the lamp in the household is comparable to the wasteful use of water. The modern high class system of irrigating canals is designed to deliver practically all the water to the

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orchard. The inefficiency of the domestic irrigator has led to a waste of nearly 50 per cent of this water. In the modern domestic supply of electric power, the power company delivers its energy in a manner that obviates every possible loss. The consumer, ignorant or heedless of economic lamp efficiency, wastes fully 50 per cent of the energy for which he monthly pays. The broadcast agitation on the part of the lamp companies to educate the public in the economic use of lamps is highly commendable, and is resulting in thousands of happier, brighter, and yet more economically lighted American homes.—Journal of Electricity, Power & Light.

### Arranging House Wiring

THERE are many points in connection with house wiring which do not always receive that degree of attention at the hands of the contractor which they merit. The majority of these arise out of the character of the building, the scheme of decoration or the tastes of the householder or individual members of his family. Others depend on the principles of illumination and although these are now far better understood than was the case some few years ago, instances still arise where neglect or ignorance of these results in either pecuniary loss or loss of prestige to the contractor who carries out the work, and the dissatisfaction of the client for whom it is being done.

Possibly in no other class of electrical installation work does the final result depend so much on the artistic taste of the contractor as in house wiring. Certain it is that in no other branch of illumination does this question of taste occupy so prominent a position. Not only is it essential during the preliminary planning out of the distribution of the lights, but it comes largely into evidence, especially where the client himself does not possess it to a marked degree, during the discussion which invariably takes place as to suitable designs for fittings and the questions as to of what metal they are to be made and how finished. It also enters largely into such matters as the length of pendants, height of standards and patterns and colors of shades.

The question of cost is an important one, particularly in the case of small private dwellings. When electric light is installed in small property the householder is seldom disposed to spend so much, in proportion, on fittings and shades as is the occupant of a much larger residence. But during recent years such advances have been made in the design and finish of cheap and artistic electric light fittings that tasteful and correct styles for the various rooms may be obtained and installed without any extraordinary expenditure. In methods of wiring also such improvements have been made as to render it possible to save expenditure on wiring or cutting away, and to allow more money for the purely decorative side of the lighting. It is possible to install and even conceal some of the patent conductors for less than it would have cost a short time ago to run up wood casing in the cheapest possible way. Such systems of wiring naturally have their place also in the better class residences, where by their aid it is possible, without chasing in and sinking the conductors, to carry them over valuable old oak paneling or elaborate mural decoration, without them being even noticeable, much less conspicous. But in such cases artistic taste is more necessary even than the exercise of extreme care.

In other directions the character of house-wiring work has altered. The protection of conductors is now far from expensive, and compared with the haphazard systems at one time in vogue is quite a scientifically arranged matter. Now the contractor can employ either iron, steel, lead, brass, paper or fiber conduits, use one or other of several admir-

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able systems of metal molding, or at a slight extra cost can obtain capping and casing made with any design of molding and from almost any wood he desires. At one time, unless the householder was prepared to spend a considerable sum on the work, the contractor could do not more than run ordinary white wood casing up by the side of the door, over the cornice at an angle which did not render any cutting away necessary and so across the ceiling until the point was reached where the light was to be attached. If the householder did not mind the slight extra expense the ceiling casing could be concealed between the plaster and the flooring of the room above, but he had to put up with the unsightliness of the upright casings unless he was prepared to have the room repapered, in which event the casing could be sunk into the plaster.

But today wiring methods have improved, the looping-in system, to which objection has been raised in some quarters, has cheapened the cost of installation: the improved technical knowledge of the contractor, the foreman and the wireman has removed unsightly work from the interior of the rooms, and the finished installation of a few years ago, carried out in the best possible manner and with the best available materials, could not compare for a moment with even an average installation of the present day.

In the matter of accessories also the contractor has more scope for artistic selection than was at one time the case. Neat designs of switch-plates, ceiling roses and point switches or wall sockets are now within the reach of the most modest purse, where previously they were unobtainable unless specially designed by an artist and produced by a skilled metal worker to suit the requirements of some particular building and turned out in small quantities at almost prohibitive cost.

With regard to fittings, this is true to an even greater extent. Electroliers, pendants, brackets, standards and shades were frankly copied from the gas fittings then in vogue. Neither taste nor originality was shown, and no effort on the part of either the householder or the engineer carrying out the installation could do other than make the best of a bad job. Many householders attempted, with some measure of success, to improve the effect by making their own shades from silk or paper; others were compelled to regard the comfort and convenience of the electric light as inseparable from bad taste, and were content to endure electroliers with solid-looking downright rods, heavy cast-brass arms with lavish and coarse scroll work, fitted with colored shades of crude tints, generally etched with some inartistic floral or geometrical design. Now all that is changed, and a visit to the show rooms of any of our large electrical firms will show the advances which have been made.

In addition to all these improvements the cost of lighting has been cut down by anything from 50 to 70 per cent by the introduction of the metal-filament lamp, and this reduction has naturally been followed by a great increase in the numbers of those who have had the elec-

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tric light installed in their premises. There are still many, however, who regard the price of wiring as prohibitive. They view with disfavor also the general upset which is inseparable from the visit of the wireman when wood casing or conduit is used. They are not always, as has been said, enthusiastic about electric light, if the installing means each room converted for the time being into a workshop, floor boards ripped up, carpets and hangings soiled by plaster and sawdust, and passages filled with lengths of casing and tubing, with a possibility of the premises having to be rewired at some future time.

To such as these one or other of the newer systems of wiring should appeal with direct force, and the contractor should certainly point out to them the advantages of the way of cleanliness, absence of cutting away and making good, and speed with which the work can be performed.—Electrical Manufacturer & Installation Engineer.

### Electrical Education in 1915

The plea made by Mr. John A. Britton at the opening session of the National Electric Light Association in Seattle this week in which he mentioned California's supremacy in the development of electric power and transmission has really a far greater significance than may have been conceived, even by so brilliant a talker as he.

San Francisco is indeed a hub for the enormous potential activities of the Pacific Coast and it was to this city the first long-distance transmission system was developed. Every branch of electrical engineering practice may be observed and every step of the history of its development has been exemplified in the transmission systems connecting with the electrical supply of San Francisco.

The World's Fair in 1915 will far outshine in magnificence of display anything that has been heretofore conceived and it is all through the possibilities of

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the wonderful resources which have had their development in California. And the whole world has reason to expect such an exhibition, just as it might expect France to excel in silk textile exhibits, Persia in oriental tapestries, Germany in military organization, or Brazil in coffee and rubber. California can, however, go a step further, because while these various features of excelling are due more or less to local or sectional advantages, the development of the transmission and use of electricity is worldwide. Nevertheless California keeps always ahead, her engineers answer and fulfill the need without fear or favor. The world's greatest commercial science development will be found here in 1915.—Journal of Electricity, Power & Light.

### Home Lighting.

The subject of lighting our homes gives us more thought than the furnishings. It is one of the greatest sources of pleasure or of distress. We find the designers and makers are fully aware of this and are studying our needs. Where electricity is to be used, it is a matter of perplexity to get the correct fixtures and the shades corresponding to the other furnishings that will produce a restful, satisfactory illumination. It is the same case where gas only is used. We are much interested in the indirect lighting. This method is where part of the light is sent to the ceiling and thence reflected downward, and the remainder of light is transmitted to the lower part of room. The result is a soft light through the entire space. This is ideal lighting for the dining-room or hall. It is not obtrusive as many of the central lights with shades, and now they have advanced so far in the making of the bowls that they really are works of art. There is one bowl which is made of composition resembling Carrara marble. It bears delicate classic designs which makes it ornamental when the light is off or on.

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# By the Way

## Some Industrial Information Worth the While

### Dieckmann Company Moves

The Dieckmann Hardwood Company has moved its main office to the plant at Beach street, corner of Taylor, San Francisco. The change of location will enable the officers of the company to get in closer touch with the saw-mill operations which are increasing in volume right along. The Dieckmanns have always given a great deal of personal attention to details and this probably explains why the company has been so successful.

### New Roofing and Magnesite Flooring Concern

W. H. Malott, formerly of Ford & Malott, has withdrawn from the company succeeding this firm, the Fibrestone & Roofing Co., and associated himself with E. H. Peterson under the firm name of Malott & Peterson, with offices in the Monadnock Building. The new firm will specialize on roofing contracts also the laying of magnesite flooring, for both of which lines they are eminently fitted by years of practical experience.

### Contract Let for Municipal Car Barn

The contract for constructing a reinforced concrete building at the northwest corner of Geary street and Presidio avenue, San Francisco, to be used as a car house, office and substation for the Geary Street Municipal Railway, has been awarded by the Public Works Commissioners to F. Rolandi for $210,000. It is said the barn will be the most elaborate of any similar structure in the United States. A feature will be a fine gymnasium for the employes.

### The Remedy For Damp Walls.

A means of preventing the penetration of dampness and water through structures such as foundations, cellar walls and floors, tunnels, dams, reservoirs, swimming pools, and other concrete work, has often proved a difficult problem. Concrete is porous because of the


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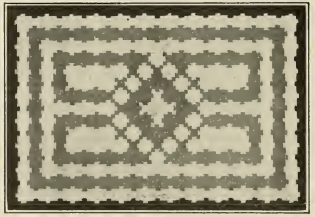

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voids between its contents. Under a glass a fresh surface of fracture shows that the pieces of stone and sand are smeared over with a very thin coating of cement wash with considerable remaining voids. Through these voids water will pass by gravitation and capillary attraction. To make the concrete waterproof, two principal methods have been tried. One is the filling of the mass throughout with a non-porous substance, or the treating of the surface so as to make it watertight. The objection to the surface coating is that it is easily broken or rubbed off in spots and is too weak to be serviceable as a waterproof coating should be. It is not satisfactory to waterproof the mass of concrete in such a way as to leave this important property at the mercy of continued watchfulness and renewals. A satisfactory waterproofing must be as durable as the concrete itself.

A waterproofing compound which is mixed with and becomes an integral part of the structure is known as Ceresit, a cream-white paste of about the consistency of butter. Ceresit paste is simply added to the water used in mixing the mortar or concrete and penetrates with the water to all parts of the concrete or mortar, assuring a permanent waterproof and dampproof structure. Among the properties of Ceresit may be mentioned

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that in addition to preventing penetration of any moisture whatever, it does not affect the original strength of the cement, and is so inexpensive as to make it a means of real economy. The many structures in which it has been used are continual evidence that it prevents the penetration of water, even under heavy pressure, as in dam, reservoir, bridge and similar work.

The Ceresit Waterproofing Co., Clark and Adams streets, Chicago, have published a pamphlet, sent free on request, illustrating many structures whose walls have been waterproofed in the manner described, and giving a list of local agencies.

### Big Order for Roofing Tin.

Mr. J. A. Drummond, representative of N. & G. Taylor Co., Philadelphia, informs us that he has secured an order from the Forderer Cornice Works of San Francisco for 195 boxes of their leading brand Target and Arrow roofing tin, which is to be used for the roofing of the St. Ignatius church of San Francisco. The contract was let through the office of Mr. Chas. J. I. Devlin, who is the architect of the church. This is said to be the largest sheet metal contract ever let in San Francisco for ornamental sheet metal, cornice and tin roofing work combined. Mr. Drummond thinks this should be an argument for sheet metal and tin roofing as a fire retardant on buildings of this class as well as others.

### More About the Subway Plans.

County Surveyor Perry A. Haviland of Oakland has returned from an extended Eastern trip, and states he will soon be in a position to submit plans, maps and estimates as to the feasibility, cost and necessity of the proposed subway under the estuary, between Oakland and Alameda.

Haviland made a special study of the Eastern subways. He passed much time in New York, and says that he is convinced that the contemplated subway will immensely facilitate shipping on the estuary and traffic between Oakland and Alameda.

"While I was studying the work in the East I had the men in my office actively engaged in taking soundings and compiling data," explained Haviland yesterday. "We have taken into consideration the amount of traffic under the estuary and over it. We have also taken soundings and have made examinations of the geological conditions. I expect to be able to report within the next month or so."

The county appropriated $3,000 for the work of compiling data. Haviland made his Eastern trip at his own expense, and proposes to use his information in the construction of subways in other counties as well.

### Forty Years of Service.

White Bros., the well-known San Francisco hardwood lumber dealers, have issued an attractive booklet entitled "Forty Years of Service." It is a short but interesting story of the firm's wonderful success. Here are a few facts taken from the book:

"The history of our firm begins with Peter and Asa L. White, who were born in the lumber section of "Down East," and entered the lumber business as a natural consequence of their environment. To fully appreciate the usefulness of various kinds of lumber, and learn their corresponding value, was a matter of course with them since their early boyhood.

"During the early sixties, when California was just in the infancy of its development, Peter White established a wholesale supply house in San Francisco, handling wagon material, hubs, spokes, etc., in conjunction with hardwood lumber.

"In the year 1872, the present firm of White Brothers was established by Peter and Asa L. White, both experienced in the lumber business. Under the careful management of these two pioneers the firm has prospered and gradually, as the business has progressed, has been so enlarged that now the house of White Brothers enjoys 'the' largest hardwood lumber business on the Pacific Coast.

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### Artolith—What It Is

Architects are inquiring: "What is this Artolith we hear so much about lately?" In a word it is a perfect jointless flooring—waterproof, fireproof, sanitary and seamless. The Artolith Manufacturing Company has established a permanent studio at 149 Turk street, San Francisco.

Artolith is laid in a plastic state about the consistency of mortar; in the same manner as a cement floor, forming a continuous sheet without joints or cracks over the entire area to be covered. It hardens in from ten to twelve hours, and making a perfect bond with its foundation becomes a permanent floor.

Artolith can be laid on a foundation of concrete, brick, old or new wooden floors. Under ordinary conditions it is laid about half an inch thick, and when finished makes a fire-proof, jointless, non-slippery, foot-warm flooring, easily cleaned and sanitary to the highest degree. It can be laid in various colors in panel or squares of different colors and handsome designs, lettering, etc., can be executed.

Artolith can be sawed or cut like hardwood and gives a firm hold for screws; it can be easily and cleanly cut or taken up and re-laid when neccessary to allow for pipe holes, traps, partition, etc.

### Contractor Tells Why Oakland Firms Fail to Secure Work

In an address to the members of the manufacturers' committee of the Chamber of Commerce, Percy J. Walker, general contractor, explained why more of his sub-contracts were not given to Oakland men.

Walker stated that he had the figures bid by every contractor on every building erected under him in Oakland since the fire in 1906, and said that the trouble was that Oakland men lacked enterprise when it came to big contracts. This was proved, he said, by the fact that in buildings costing in the neighborhood of $100,0000, the proportion of contracts let to San Francisco and Oakland men was 144 to the latter and 53 to the former, whereas in class A structures, the proportion was 51 to San Francisco and 26 to Oakland. He cited the work on the Oakland Hotel and gave the figures on the various contracts, showing that if he had awarded the work to the Oakland men who had bid on it, the building would have cost exactly $172,000 more than its present cost.

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### New Coast Manager for Pittsburg Water Heater Company

The Jos. Thieben Company, who have been successfully handling the Pittsburg water heater in Northern California for several years, announce an important change in the sales management of its heater department. Mr. C. A. Detweiler who has been connected with the Pittsburg Water Heater Company as Secretary and Eastern Sales Manager with headquarters in Pittsburg, Pa., has acquired an interest in the California business of the company and has commenced his duties as Sales Manager with offices and display rooms at 667 Mission street, San Francisco. Mr. Detweiler will devote his entire time to building up the Northern California business of the Pittsburg heater, giving close attention to the details and co-operating wherever possible with the architects.

The sales of the Pittsburg heater have now passed the one million per annum mark with the San Francisco office handling as many, if not more, than any other city in the United States. In view of the great demand for the Pittsburg heater on this Coast, the company feels justified in increasing its expenses out here by giving its customers the very best possible service.

One of the most popular heaters on the market today is the Pittsburg "Bungalow" automatic, which is a gas water heater built especially for the small home. The materials entering into its construction are the best that can be secured—in fact, just as good as the materials to be found in the more expensive heater. It is so well built that it will endure under ordinary conditions for more than fifteen years and will pay for itself and earn a substantial dividend in the gas and time saved.

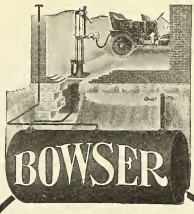
---

### Frederick W. Muller.

In the recent death of Mr. Frederick W. Muller, of the firm of Klenck & Muller, the San Francisco General Contractors' Association has suffered the loss of a man whose membership will not be easily filled.

A large number of the stockholders and associate members attended the funeral, which was held on Sunday, June 2, in King Solomon's Temple.

Mr. Muller was a man of wide business experience, and one who had always made a success in the contracting business. At one time he was engaged in the brick manufacturing business at Antioch, and has been engaged in several other enterprises from time to time, but it was in the contracting business that Mr. Muller always made good money.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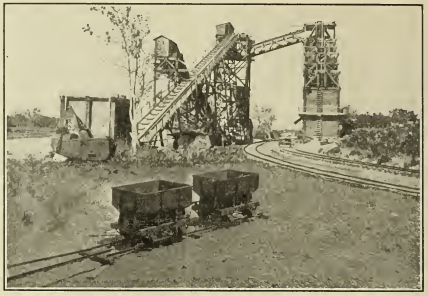

*Shewing Plant on north bank of Alameda Creek.*

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## New Plant of the Niles Sand, Gravel and Rock Company

THE enlargement of the uses of reinforced concrete construction and of plain concrete has so greatly increased the demand for sand and gravel that large modern handling plants are now greatly in demand. The use also of clean rock and thoroughly washed gravel and sand has become almost universal, as engineers have found that the washed materials give much better structural results than the dirty products.

At an enormous expense the most up-to-date washed rock and gravel plant in the United States has been built at Niles, California, by the Niles Sand, Gravel and Rock Co. The plant is situated on the bank of the Alameda creek which is said to have a bottomless depth of gravel. Some engineers have estimated it at from two to three thousand feet deep. The plant is reached by ample railroad facilities, including spur tracks of the Southern Pacific and right of way privileges with the Western Pacific Railway Company.

Mr. J. C. Buckbee, one of the most experienced engineers in this line of work in this country, and one who specializes in designing washed sand and gravel plants, was given *carte blanc* in designing the Niles outfit. Practically all the machinery was turned out in San Francisco by the Meese & Gottfried Company from Mr. Buckbee's plans. The cars were made by the Union Iron Works, while the motors—10 in number—and varying in size from 8 to 112 horse power, were furnished by the General Electric Co. The plant has a capacity of 125 cubic yards per hour, and is operated entirely by electric power furnished by the Pacific Gas & Electric Company. The plant equipment includes a Lidgerwood electric two-yard bucket excavator, which picks up two yards of gravel every forty seconds. The gravel is then hauled in cars by electric hoists to the main plant. Here it is dumped into a hopper, then fed onto a belt-conveyor 350 feet long, and carried to the top of the building where it is dropped into a box and thoroughly washed. It then passes through ten large cone shaped screens where it is again washed by a pressure of 1000 gallons of water per minute. All over size material is sent to crushers after leaving which it is again screened and washed.

The company will regularly employ a force of at least twenty men. Work on the plant was commenced a year ago last April. It is now complete with the exception of the construction of several tunnels which will be used to carry by belt-conveyors the finished product to cars for shipment. Ample storage accommodations have been provided and special attention will be given orders requiring prompt shipment. The company is prepared to fill all orders within a radius of 200 miles of San Francisco. Offices have been taken in the Mutual Bank Building, 704 Market street, San Francisco, and orders by telephone or mail will receive immediate attention.

## Somebody's to Blame

A haphazard manner of construction in the new San Francisco hall of justice and the need of $10,500 to put the building in satisfactory condition, non-fireproof construction in the new girls' high school and a deficit of $1,077,200 in the funds necessary to complete the San Francisco hospital are among the startling conditions found by the consulting board of architects in municipal buildings, according to their report submitted to Mayor Rolph. The architects are John Galen Howard, Frederick H. Meyer and John Reid, Jr.

The report, which covers ten typewritten pages, reveals a mass of defective work in a number of buildings in course of construction, and sets forth the amount of money required to remedy the errors and omissions and to complete the structures.

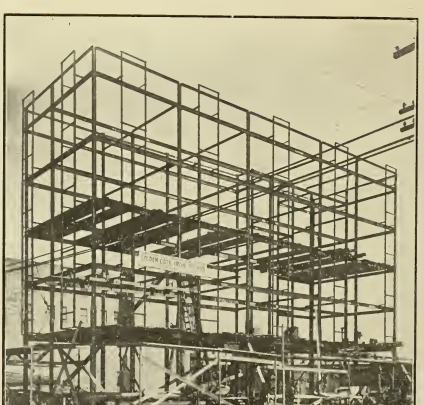
Of the hall of justice and city and county jail the report says:

Two other buildings which have been left in a more or less incomplete state are the hall of justice and the city and county jail. Although the contracts for the hall of justice have been completed and payments made, it will require $10,500 to put this building in satisfactory condition and settle unpaid bills. The interior finish of this building leaves much to be desired, and many things have been done in a haphazard manner.

The city and county jail has been held up for lack of funds. We estimate that it will require $60,000 to finish this building. The building itself is left in an unsightly condition and does not receive the proper surveillance. Much material has been stolen and many windows broken.

The girls' high school presents a "forest of timber," says the report, and should a fire start "nothing could save it."

The architects also find that $12,000 is necessary to make the Polytechnic high school fireproof, and that the building was to be constructed with wooden floor joists and partitions similar to the girls' high school. They estimate the deficit at $81,310.72.



*Steel Frame That Was Fabricated and Erected in Record Time*

### Record Time for Fabricating and Erecting a Steel Frame

The Golden Gate Structural and Ornamental Iron Works, is maintaining its reputation for rapid fabrication and erection of structural steel. The latest contract taken by this firm and completed to the satisfaction of the owner and architect was a five-story and basement steel frame for a building for Bannon and Melletz at the corner of Turk and Polk streets, San Francisco. As may be seen by the photograph, the steel cage is quite a pretentious one and represents a weight of more than 60 tons, covering a space of 27x83 feet and five stories in height. This frame was fabricated and erected in just 25 days. William Helbing was the contractor and D. C. Coleman the architect.

### Mr. Marshall's New Position

Mr. Albert Jackson Marshall, who for the past seven years has been associated with the Holophane Company in the position of chief engineer, in charge of their Engineering Department, and subsequently manager of their Architectural Department, announces his affiliation with Mr. F. Laurent Godinez, Consulting Lighting Specialist to Public Utility Corporations. Mr. Godinez, who has had a thorough training in all phases of public utility work for several years, has been acting in an advisory capacity to a clientele composed of large combination gas and electric properties. Hereafter this work will be conducted under the name of F. Laurent Godinez and Albert Jackson Marshall, Consulting Lighting Specialists.

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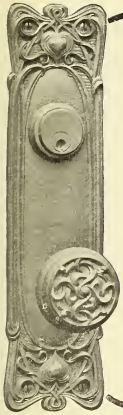

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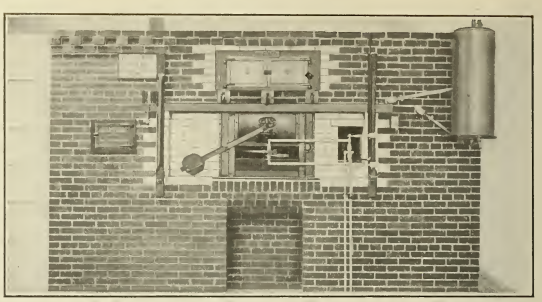

*Baker's Oven in Johnson Bros.' Grocery Store, San Francisco*

## Oil Burners a Great Saving in Fuel Cost

The above cut shows a large size baker's oven which has recently been installed by the S. T. Johnson Company in the cake department of Johnson Bros.' grocery and bakery establishment at the southwest corner of Sacramento and Fillmore streets, San Francisco. It is said that the quality of cakes and confectionery turned out from this oven is not excelled by any one oven in the city.

This large inside firing oven is heated with an oil fire with one of the S. T. Johnson Company improved low pressure air oil burning systems. The oil burner is shown at the right hand side of the oven door, is attached to the buck stay (iron brace) of the oven and is made to swing in and out of firing position at the will of the baker. This is the most improved type of the old Dutch oven style and the oil fire is lighted at the main oven door and requires about one hour to heat the oven sufficiently to bake for the balance of a 24-hour day. The fire is so clean and the combustion is so complete that when the oven is heated (the inside is white and requires no cleaning out) there is absolutely no smell, smoke, soot or dirt of any kind.

The old way of heating these ovens was to lay sticks of cord wood on the hearth and inside the oven which would require three hours to burn out to give sufficient heat for an ordinary day's baking and after the fire had burned out there was left the coals and ashes to be cleaned out and the dirt from the ashes to be mopped out from the entire oven. This labor of cleaning the oven to say nothing of chopping the wood, would favor oil burning in an oven even were it not for the fact that burning the oil saves 70% fuel cost and provides a cleaner, quicker, handier and better way of firing. S. T. Johnson Company are pioneers in the oil burning industry and have perfected a low pressure air system for burning crude fuel oil which has been installed in the following places:

Odd Fellows Home, Santa Clara Co., both for the bakery department and for the heating equipment; the Larkspur Model Bakery, Larkspur, Cal.; J. G. Coomb's Planada Bakery, Planada, Cal.; Hotel Bon Air, Escalle, Cal.; Geo. Whittell's country residence, Woodside, Cal.; Old Piedmont Bakery, 1337 Grant avenue, San Francisco, Cal.; J. Crassia Bakery, 1624 Powell street, San Francisco, Cal.; E. Hitte, Apartment House, Washington and Mason streets; J. V. Tadich, Cold Day Restaurant, corner Clay and Leidesdorf streets; Cuneo Bros., 523 Green street; Butler Apartments Building, Gough and McAllister streets; Pure Food Bakery, 2010 Mission street; Eclair Bakery and Restaurant, 19th and Mission streets; Fefferman's Bakery, 541 Montgomery street; J. A. Coombs, 8th avenue and A street; Peterson Apartment House, Market and Noe streets; J. E. Harris Bakery, 21st avenue and Geary street; Weirich & Collins Bakery, 922 Valencia street.

An official of the company states that it is conducting a test in competition with other burners for the United States Government at Fort Winfield Scott Presidio, San Francisco, which test, it is claimed, has developed a saving of from 5 to 20% over other oil burners.

### Something About Cabot's Damp-Proofing

THE problem of damp-course waterproofing—to provide for the direct application of plaster on brick and concrete surfaces without intervening furring and lath—has been made to appear complex and mysterious by the bewildering variety of products and grades, the numerous and wondrous titles that they bear, and the involved and semi-magical methods and processes of application. But when this intoxicating atmosphere is dispelled, it becomes a simple scientific problem, to be solved by a combination of properties that are permanently water-proof, insoluble, and adhesive, which will insure the user that moisture cannot penetrate, with a chemical inertness that will prevent deterioration with age. Such a product is Cabot's Damp-proofing, which accomplishes two things:

First—It forms a perfect and permanent bond between the concrete or brick wall to which it is applied, and the interior plaster which is applied over it.

Second—It forms a moisture-proof sheet or dam that prevents the penetration of dampness through to the plaster.

These two things are accomplished by making a compound which penetrates deeply into the pores of the concrete or brick wall, and yet leaves the surface in an adhesive, "tacky" condition, so that when the plaster is laid over it the damp-proofing is sucked deeply into its pores by the strong capillary attraction created by the drying out of the plaster.

This great penetrating power is produced by clarifying and refining the ingredients, so that all mineral impurities that prevent absorption are eliminated; and by scientific adjustment of the adhesive and water-proofing agents, so that they will always remain semi-plastic, or "tacky," and will not disintegrate or lose their holding or protective power. The mineral impurities so common in ordinary damp-proofings prevent penetration. This means that they have a weaker hold

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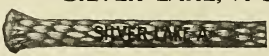


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on both wall and plaster; that they do not fill all the pores, and therefore give poor damp-proofing results; and that they deteriorate with age, owing to the disintegrating character of the impurities. Every ingredient of Cabot's Damp-proofing is in a fluid state, and it penetrates and completely fills the voids in bricks or concrete, and by capillary force is drawn into the pores and voids in the plaster. It is a scientific product, and neither haphazard nor mysterious.

### Two Valuable Books

Two instructive and valuable books have just been published by the Norman W. Henley Company, 132 Nassau street, New York, and copies may be had at 50 cents each upon application to the publishers. One of the books is entitled: "Moulding Concrete Flower Pots, Boxes and Jardiniers," by A. A. Houghton. The molds for producing many original designs of flower pots, urns, flower boxes, jardiniers etc., are fully illustrated and explained, so the worker can easily construct and operate same. A new method of making plaster molds with the formulae for the compound, which has all the smoothness of a glue mold and is very durable thus enabling many casts to be made from the one mold, is fully described.

The other book is entitled "Molding Concrete Fountains and Lawn Ornaments," also by A. A. Houghton. The easily built molds for constructing a number of designs of concrete fountains that are fully illustrated and described in this treatise, enables the concrete worker to produce many beautiful effects in the most simple and easy manner.

The molding of a number of designs of lawn seats, curbing, hitching posts, pergolas, sun dials and other forms of ornamental concrete for the ornamentation of lawns and gardens, is fully illustrated and described. The successful molds for this work are easily made by every one at a very slight cost of time and labor.

Reg. U. S. Pat. Off.

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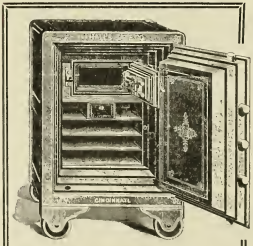

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### A Hustling San Jose Business Man

AS indicating how business has grown in San Jose during the past five years, attention is called to the growth of the great paint and paper house of J. C. F. Stagg, 256-258 South First street. It is only six years since Mr. Stagg started in business in a very humble way, in a small roof 16 by 40, and with a stock of goods less than $450 in value. From that small beginning he has developed until today he has a store building in the business heart of the city, 45 by 110 feet in extent with a basement under the whole, and all filled with modern and new stock, which he is constantly adding to. At the present time, he carries stock valued at nearly $15,000, among which everything that can be wished for in the line of paints, paper, or house decorations can be found. Here are brushes in infinite varieties, house roofings of all makes, window shades of all sizes, picture mouldings, glass, dry paints, floor coverings and deadening felts, paper-hanger and glazers' tools, and, in short, every article along this line that can be found in a paper house anywhere, and it is a stock not excelled in the State, even in the larger cities. Mr. Stagg is a practical painter, and his advice in the selection of colors and the uses of paints is furnished free to his patrons.

### Santa Cruz' Big Water Carnival

It begins to look as though every lover of fun and recreation would be present at Santa Cruz during the week of July 20th to 28th, when the greatest water pageant in the history of Western America will be promulgated under the direction of Mr. Fred Swanton and his associates. The ease with which residents in practically every section of the State can reach Santa Cruz; the attractive round-trip fares offered by the railroads; the moderate rates and splendid accommodations to be secured; and the variety of unique entertainment guaranteed by Manager Swanton, have proven irresistible magnets for hundreds of tired, overworked Californians, who long for a breath of the sea and a jolly vacation with care-free companions.

The re-opening of the Cottage City, where clean, comfortable accommodations may be had at a minimum of expense, has gone far to offset the unfortunate destruction of the Sea Beach Hotel, which burned last week. In addition, the new Hotel St George will aid the beautiful Casa del Rey in taking care of those who wish more elaborate quarters. The Casa del Rey and Cottage City will, in themselves, accommodate 1,000 guests while the hotel dining room and that of the big Casino will accommodate 1,300 persons at one time. President John Martin, of the Santa Cruz Beach Company, has notified Manager Swanton that there must be no extra charges made during Pageant week.

Several extra features have been added to the program during the past week. Aviators Bryant and Francis, famous throughout the West for their daring escapades in the air, will be on hand to lend a daily thrill to the festivities. Manager Swanton is now in communication with the Navy Department regarding the two submarines now in San Francisco bay with a view to having them at Santa Cruz for the pageant. It is understood that the Department favors this exhibition of the latest "water bull-dog." Thus it will be possible for visitors to see practically all of the modern forms of navigation—on the water, over the water and under the water.

The "Seafarer," America's entry in the Honolulu-to-San Francisco yacht race, has been invited to participate in the events of this "water week" and will probably be on hand with the winner's flag at her masthead. In addition, of course, will be the spectacular features arranged some days ago by Swanton—the yacht regattas, the motor-boat, shell, skiff, hydroplane and swimming races; the parade of decorated floats; the magnificent displays of fireworks; the bathing, golfing, dancing, driving, riding, fishing and kindred joys always associated with the Surf City.

Sidney Cavill, perhaps the most famous swimmer on the Pacific Coast and the first man who ever swam the Golden Gate, has been appointed as master of ceremonies for all aquatic sports, which means that they will be of a high order. Cavill, who is at present swimming instructor of the Olympic Club, is already in touch with some of the leading mermaids and mermen of the country, many of whom have already signified their intention of participating in the water contests.

### Succeeds Mr. Ward

Governor Johnson has appointed John Bakewell, Jr., of San Francisco, a member of the State Board of Architecture for the Northern District. The appointment fills the vacancy made by the expiration of the term of Charles R. Ward.

### Exposition Notes

Word has been received by the Panama-Pacific International Officials that Costa Rica would participate in the 1915 Universal Exposition.

That country is the eighth foreign nation that has accepted President Taft's invitation to take part in the nation's celebration of the completion of the Panama Canal.

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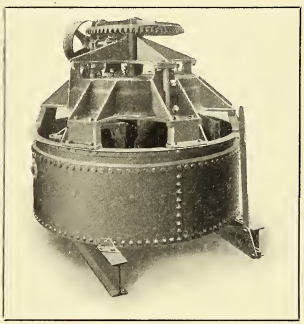

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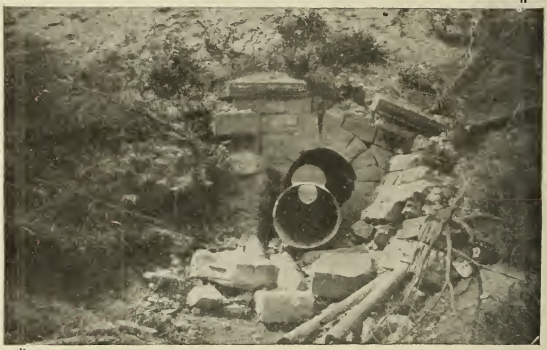

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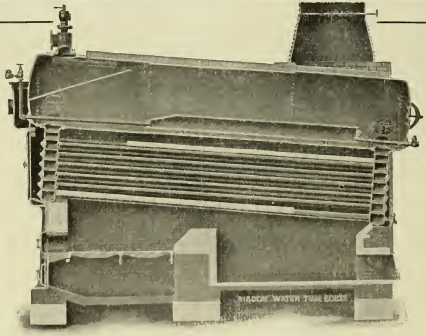


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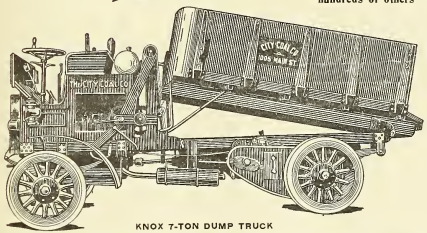

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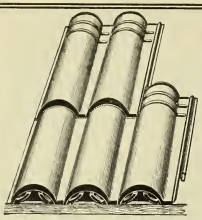

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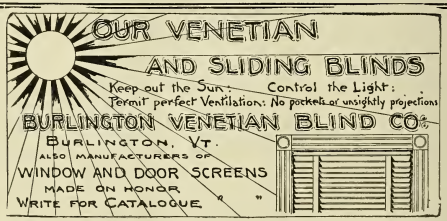


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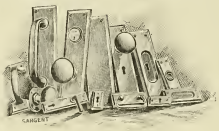

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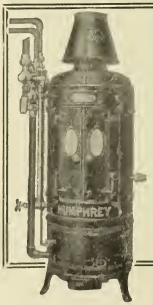

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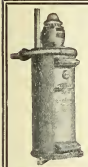

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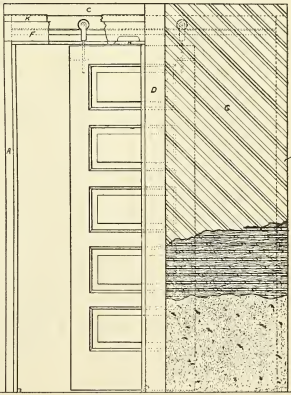


Fig 4

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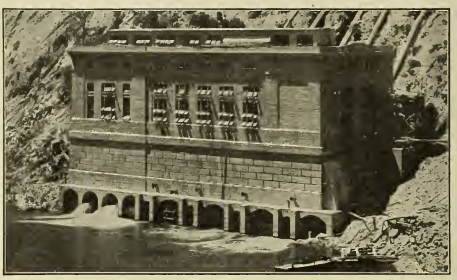

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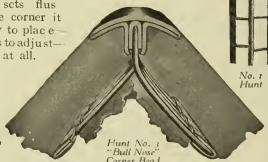

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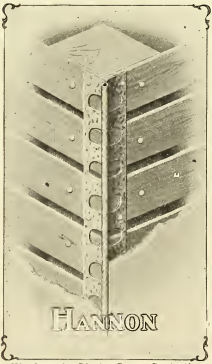


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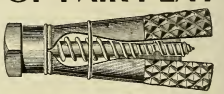

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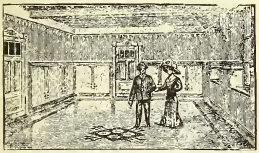

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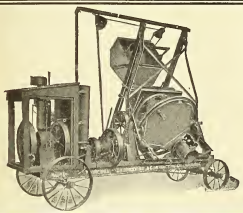

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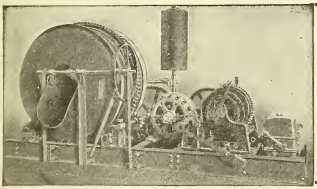

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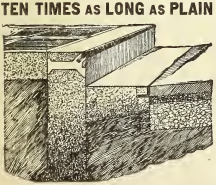

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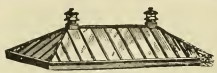

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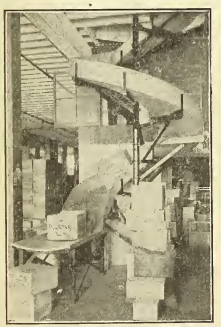

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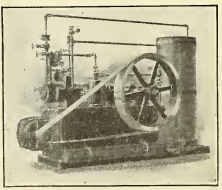

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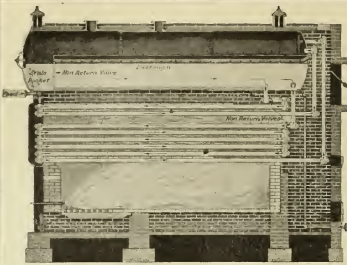

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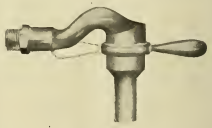

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